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NATIONAL TRANSPORTATION POLICY AND AVIATION*

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I. INTRODUCTION.

With the enactment of the "Emergency Railroad Transportation Act, 1933,"[1] Congress manifested a determination to formulate a new national transportation policy. While the language of the measure specifically indicated that the office of Federal Coordinator of Transportation was created "in order to *safeguard* and *maintain* an adequate national system of transportation,"[2] it is not difficult to believe that the office was primarily created to *develop* such a national system. The activities of the Coordinator, since 1933, might at least lead to such a belief, and it must be remembered also that one of the purposes of the act is "to provide for the immediate study of . . . means of *improving* conditions surrounding transportation *in all its forms* and the preparation of plans therefor."[3]

Several legislative proposals, looking to the improvement of transportation, have been submitted by the Coordinator. Three of these became law during the first session of the 74th Congress, as follows: (1) The Motor Carrier Act, 1935, (2) Revision of Section 77 of the Bankruptcy Act, and (3) Amendments to the Interstate Commerce Act affecting ports and gateways, etc. While the Coordinator submitted no individual bill relating to air transportation, the 74th Congress did amend the Air Mail Act of 1934, in certain respects which will be developed later. During the year

* Part of the material in this paper was presented in an address before the annual meeting of the National Aeronautic Association, Washington, D. C., January 6, 1936.

1. 48 Stat. L. 211, U. S. Code, title 49, sec. 250.
2. Section 2. Italics ours.
3. Section 4, par. (3). Italics ours.

1936, Congress will consider several additional legislative proposals submitted by the Federal Coordinator relating to regulation of water carriers, wharfingers, and the reorganization of the Interstate Commerce Commission.[4]

From the foregoing summary, it might appear that air transportation has no place in the determination of a national transportation policy. Such is by no means the case. During 1934-35, the Coordinator made no recommendations for aviation legislation because Congress, under the terms of the Air Mail Act of 1934, had created a special Federal Aviation Commission to undertake that very task.[5] For certain reasons, some of which will be explained later, the basic legislative recommendations of the Federal Aviation Commission were shelved during 1935. They may, or may not, remain shelved.

Since the Coordinator proposes no bill relating to aviation[6] it is pertinent to inquire whether or not we may assume that, for the future (or immediate future), the federal aviation policy (as a part of a national transportation policy) is committed to, and embodied within, the narrow limits of the Air Mail Act of 1934, as amended. However germane the inquiry, it is obvious that no definite answer can be given at the present moment. Therefore, we are forced to ask what persons or bodies may likely consider or challenge the existing governmental administration of air transport. It is not impossible that the Coordinator may introduce proposals

4. The recommendations offered in the *Fourth Report of the Federal Coordinator of Transportation*, as of January, 1936, p. 84, are as follows:
(1) Enact the legislation for the Federal regulation of water carriers as set forth in the bill now pending in the Senate (S. 1632, as reported by the Senate Committee on Interstate Commerce).
(2) Enact the legislation for the Federal regulation of wharfingers which will be set forth in the bill soon to be presented.
(3) In the event that recommendation (1) is followed, enact legislation for the reorganization of the Interstate Commerce Commission along the general lines set forth in S. 1635 and H. R. 5365 (74th Congress, 1st Session).
(4) Enact legislation for the creation of a Coordinator of Transportation associated with the Interstate Commerce Commission along the general lines set forth in S. 1635 and H. R. 5365 (74th Congress, 1st Session).
(5) Enact legislation providing for dismissal compensation for railroad employees displaced by coordination projects along the general lines set forth in S. 1630 and H. R. 5378 (74th Congress, 1st Session).
(6) Enact legislation enabling the Commission to prescribe minimum as well as maximum joint rail-water rates, and to establish through railroad routes where deemed necessary in the public interest regardless of the "short-hauling" of any carrier, as set forth in S. 1636 and H. R. 5364 (74th Congress, 1st Session).
(7) Enact legislation amending Section 4 of Part 1, Interstate Commerce Act, by eliminating the so-called "equi-distant" clause.
(8) Enact legislation shortening the statutory periods of limitation with respect to reparation claims against railroads to 1 year in the case of overcharges (and undercharges) and to 90 days in the case of all other claims.

5. 'In view of the creation of the Federal Aviation Commission and the special study which it has given to these questions, the Coordinator has not undertaken to arrive at conclusions and make recommendations on his own account." *Third Report of the Federal Coordinator of Transportation*, as of January 23, 1935 (House Document No. 89, 74th Congress, 1st Session), p. 19. See full statement pp. 18-19.

6. Other than that providing for the reorganization of the Interstate Commerce Commission (S. 1635 and H. R. 5365—74th Congress, 1st Session).

looking to a change in administrative organization; there are also committees in the Senate and House whose powers are sufficiently broad to enable them to consider the relation of governmental agencies to air transportation and to develop a program for the future.[7] The Senate Subcommittee on Aircraft Investigation has, in its hearings of February 10-15, indicated an interest in the larger aspects of the subject. It may decide to make recommendations on questions involving important administrative issues; so may the House committee.

Whatever may be the immediate proposals offered to Congress, there is reason to consider some of the fundamental matters which are certain to influence the determination of a federal transportation policy as it affects aviation. The present study assumes that the question of going beyond the 1934-35 air mail legislation will be raised again, and that, when such time comes, it will be desirable to have available all data that can reasonably assist in the formulation of a sound judgment. The method here adopted to that end will be a more or less chronological analysis of those elements which are believed appropriate to an intelligent inquiry.

II. The General Transportation Background.

Before directing attention to the specific problems of air transportation, it may be helpful to orient ourselves by reference to previous national transportation experience. Let us, therefore, consider the American transportation policy as it emerges from the various periods and eras marked by technical advances and, perhaps more distinctly, by differing sources of motive power.

18th Century—Natural Power:

The 18th Century, and those preceding it, belong to the era of *natural power* used in transportation. Settlers in a new country are always forced to utilize its existing natural resources and, in the United States in the early days, water carriage was the most available.[8] Road conditions were admittedly abominable and, while

7. The Senate Subcommittee, authorized by S. R. 146 (74th Congress, 1st Session) is headed by Senator Copeland of New York. The House Committee is headed by Congressman Mead of New York.

8. "Historically, water transportation was cheapened long before we had cheap land transportation. Consequently, we find that commerce in a large sense developed first on the water. Great cities were located where there were advantages in water transportation. Considerable commerce has always been carried on, from the very earliest times, by means of caravans traveling over land, but the most of this kind of transportation was so great that the commerce which developed under these conditions was necessarily confined to articles of luxury which embodied large value in small bulk. . . . Water transportation developed first, of course, where it was safe; that is, on rivers or small bodies of inclosed water . . . The order of development of water trans-

the first turnpike was started between Philadelphia and Lancaster in 1794, the real efforts of the people were spent on the development of canals, which had started by 1780. By 1790, flatboats were operating on the Ohio and Mississippi Rivers with the upstream traffic amounting to about ten per cent of that moving downstream—due, of course, to lack of suitable power. While water transportation development was being augmented by canals, a few of the people were amused by the balloon ascent of a fellow named Blanchard at Philadelphia in 1793.[9] Some of the populace, thus amused, might have thought: what a silly thing, this flying!

portation has been described as, first, the potamic stage; second, the thalassic; and third, the oceanic." *T. N. Carver*, Principles of National Economy (1921 Ed.) pp. 305-7.

Professor Carver, incidentally, is the first author (known to the present writer) to hint at the method of analysis here undertaken—in terms of power. Carver has two brief sub-headings entitled "animal power" and "mechanical power" (pp. 308-9) but does not develop the idea further.

The classical statement of this historical development—set forth with considerable pessimism (in 1776) as to the possibilities of land transportation—is to be found in an out-of-the-way chapter in *Adam Smith*, The Wealth of Nations (Everyman's Ed. Vol. 1, pp. 16-18) wherein he discusses the limitations of the division of labor as determined by the extent of the market, in the following language:

"As by means of water-carriage a more extensive market is opened to every sort of industry than what land-carriage alone can afford it, so it is upon the sea-coast, and along the banks of navigable rivers, that industry of every kind naturally begins to subdivide and improve itself, and it is frequently not till a long time after that those improvements extend themselves to the inland parts of the country. A broad-wheeled waggon, attended by two men, and drawn by eight horses, in about six weeks' time carries and brings back between London and Edinburgh near four ton weight of goods. In about the same time a ship navigated by six or eight men, and sailing between the ports of London and Leith, frequently carries and brings back two hundred ton weight of goods. Six or eight men, therefore, by the help of water-carriage, can carry and bring back in the same time the same quantity of goods between London and Edinburgh, as fifty broad-wheeled waggons, attended by a hundred men, and drawn by four hundred horses. Upon two hundred tons of goods, therefore, carried by the cheapest land-carriage from London to Edinburgh, there must be charged the maintenance of a hundred men for three weeks, and both the maintenance, and, what is nearly equal to the maintenance, the wear and tear of four hundred horses as well as of fifty great waggons. Whereas, upon the same quantity of goods carried by water, there is to be charged only the maintenance of six or eight men, and the wear and tear of a ship of two hundred tons burden, together with the value of the superior risk, or the difference of the insurance between land and water carriage. Were there no other communication between those two places, therefore, but by land-carriage, as no goods could be transported from the one to the other, except such whose price was very considerable in proportion to their weight, they could carry on but a small part of that commerce which at present subsists between them, and consequently could give but a small part of that encouragement which they at present mutually afford to each other's industry. There could be little or no commerce of any kind between the distant parts of the world. What goods could bear the expense of land-carriage between London and Calcutta? Or if there were any so precious as to be able to support this expense, with what safety could they be transported through the territories of so many barbarous nations? Those two cities, however, at present carry on a very considerable commerce with each other, and by mutually affording a market, give a good deal of encouragement to each other's industry.

"Since such, therefore, are the advantages of water-carriage, it is natural that the first improvements of art and industry should be made where this conveniency opens the whole world for a market to the produce of every sort of labour, and that they should always be much later in extending themselves into the inland parts of the country. The inland parts of the country can for a long time have no other market for the greater part of their goods, but the country which lies round about them, and separates them from the sea-coast, and the great navigable rivers. The extent of their market, therefore, must for a long time be in proportion to the riches and populousness of that country, and consequently their improvement must always be posterior to the improvement of that country. In our North American colonies the plantations have constantly followed either the sea-coast or the banks of the navigable rivers, and have scarce anywhere extended themselves to any considerable distance from both."

9. *Magoun and Hodgins*, A History of Aircraft (1931 Ed.) p. 45. Blanchard was in the air for 46 minutes and landed in New Jersey "where a passport

19th Century—Steam Power:

The 19th Century brought with it the use of *steam power* for transport purposes and witnessed the development of a vast railway net-work of nearly 200,000 miles.[10] However, before the real effect came to be felt, there were many false starts and the "fumbling process" was very evident. This century saw the great growth of governmental interest in transport media—as manifested by generous donations and, also, by abundant regulatory laws. Seemingly, the popular objective was to utilize steam power (already well harnessed by Watt in a stationary engine) on boats and on wagons running on the highways. No one dreamed of the railroad as we now know it. While Fulton was working on his steamboat, Evans in the United States and Trevithick in England were experimenting with steam-driven carriages. These latter vehicles were run upon the highways and, in the absence of obstructions and other handicaps of terrain, could make at least five miles per hour.[11] Fulton's success with the steamboat in 1807 preceded the successful use of steam power for land transportation and made possible a real two-way river traffic (on the Mississippi) by 1817. With the completion of the Erie Canal in 1825, the future of steam-driven water craft seemed very bright.

Congress was quick to recognize the possibilities of steam-driven vehicles on the roads, and the national pike (the famous

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furnished by General Washington was his only assistance in coping with the townsfolk who were . . . at first inclined to be somewhat grudging in their welcome to a strange gentleman who descended from the skies in an uncanny apparatus, speaking an 'outlandish' tongue."

10. The following table, given in round numbers, illustrates the growth of the American railway mileage:

Year	*Mileage*
1833	380
1840	2,800
1850	9,000
1860	31,000
1870	53,000
1880	93,000
1890	156,000
1900	193,000

11. "Yesterday, we proceeded on our journey with the engine; we carried ten tons of iron, five wagons, and seventy men. It is above nine miles which we performed in four hours and five minutes. We had to cut down some trees and remove some large rocks out of the road. The engine, while working went nearly five miles per hour." From the diary of Richard Trevithick, referring to a tram locomotive at the iron works of Pen-y-darran in February of 1804, cited in *A. P. Usher*, An Introduction to the Industrial History of England (1920 Ed.) p. 435.

The dependence of any land vehicle upon a hard surfaced road is well illustrated by Professor Carver, in his remark that "The economy of the auto truck, however, depends upon the character of the roads. With the common dirt roads which formerly prevailed in the country it is doubtful if it could have been used economically even if it had been developed . . . It is interesting to note how every advance in methods of land transportation seems to depend upon the quality of the road or track . . . The acme of track-building is the railway, where the wheeled vehicle runs on steel rails . . . Improvement in the manufacture of the steel rail has had to go hand in hand with the improvement of the locomotive engine." *T. N. Carver*, Principles of National Economy, pp. 309-10.

Cumberland Road) was started, in 1806,[12] for this and other reasons as a federal project. The building of this important highway went on at a cost of some seven million dollars until 1822, when President Monroe vetoed an appropriation bill—supposedly on the theory that Congress lacked constitutional power to engage in such an enterprise. That veto sounded the death knell to highway development, and for eighty years (until the automobile made the need obvious) the highways of the country became the objects of state and local charity.[13]

Due to lack of rolling mills and general technical skill in the iron and steel industry, the steam-driven vehicle, operating on the poorly constructed public highways, was doomed to failure. Any success it might have had (and there were then about a dozen companies operating steam passenger and freight carrying vehicles in England) was nullified by discriminatory taxation and unduly burdensome governmental regulations.[14] However, the same steam-driven vehicle—when placed upon a prepared roadbed (such as rails)—proved to be an immediate success. Thus, Stephenson's engineering skill gave us the true railroad. The history of the railroad, its growth and triumph over water transportation by the decade of the sixties, is so familiar as to require no elaboration here. Suffice it to suggest how very different our transportation picture might have been today if hard-surfaced roads and internal combustion engines had been perfected by 1800!

During this century, steam power was being tried for aviation. In 1842, Henson's steam-driven monoplane was designed and, by 1889, Langley was attempting to adopt this form of power to his aerodrome.[15]

The periodic surges of the American population toward ever-widening western frontiers accentuated the need for an adequate

12. "The turnpike movement was well under way by 1800. Within the next few years Pennsylvania chartered 86 turnpike companies which built about 2,200 miles of road; New York chartered 135 companies which had built about 1500 miles by 1811; New England had chartered 180 companies by 1810." *D. Philip Locklin*, Economics of Transportation (1935 Ed.) p. 32.

13. During Jackson's administration the Cumberland Road was transferred to the states through which it passed. The states also subsidized the construction of plank roads—the idea being to make them revenue producing as toll roads. *Locklin, op. cit.*, pp. 33-34.

14. Maximum speed was regulated, the number of operators was set at a relatively high figure, and it was not unusual to require a man with a red flag to precede a machine. For the English antecedents, see *Stuart Daggett*, Principles of Inland Transportation, (1934 Ed.) pp. 129-30.

15. See the account in *Magoun and Hodgins*, A History of Aircraft, pp. 311-324. Langley's plans called for a 4-pound, compound steam engine to develop 1 horsepower at a boiler pressure of 60 pounds. Later, his assistant, Charles Manley, assisted in the construction of a gasoline engine for the aerodrome. This weighed 125 pounds and developed 52.4 horsepower—a weight of only 2.4 pounds per horsepower. When Simon Newcomb supposedly proved the impossibility of flight by heavier-than air craft, it must be remembered that one of his assumptions (recognized or otherwise) was based upon the ratio of weight to horsepower as found in a *steam-driven* engine.

national transportation system and, in this expansion era, the railroad proved itself the most flexible and promising transport agency. In turn, it was the recipient of individual and governmental bounty. Millions of dollars and millions of acres of land were made available to finance a railway network which completely gridironed the nation. Competition between rival forms of transport (water and rail) that had existed prior to the sixties soon became competition between rail carriers alone and, in the latter form, became most destructive.[16] The evils inherited from early speculative days commanded governmental attention and action and brought about a federal control that has since continued and expanded to an extent which, to some at least, has become alarming.[17]

20th Century—Gasoline Power:

The 20th Century, for our purposes, may be called the period of *gasoline power,* although obviously other forms of power continue to be used. The date of 1900 will not serve as an exact transition point for the automobile is credited to Daimler as early as 1887. However, by 1895, there were only four autos registered in the United States. The new century, bringing new technical skills and improved processes, ushered in a tremendous revival of interest and, from 8000 autos in 1900, we have gone to 26 million at the present writing. The sudden public demand for improved highways (arising, in part, from the pleasures of the private automobile) swept away the cobwebs of governmental inactivity and brought about the building of 3 million miles of highways—of which nearly a third are hard surfaced. Given concrete roads to parallel the steel rails, given the advantage of governmental maintenance of those roads, and given the gasoline-driven motor vehicle (considerably more flexible as an economic unit of transportation than the

16. "In 1868 the rates from Chicago to New York were $1.88 per hundred pounds, first class, and 82 cents fourth class; but in 1869 a 'rate war' carried the rates for a time to 25 cents a hundred for all classes." *Johnson and Van Metre,* Principles of Railroad Transportation, (1922 Ed.) p. 278. For a discussion of the economic factors involved in railroad competition, see *Fairchild, Furniss and Buck,* Elementary Economics (1926 Ed. Vol. II) pp. 14-16. For a discussion of destructive rate wars that continued even after the establishment of the Interstate Commerce Commission, see *W. Z. Ripley,* Railroads: Rates and Regulation (1922 Ed.) Ch. 12, pp. 411-441. See also, *Ida M. Tarbell,* "Standard Oil Rebates" published in *Ripley,* Railway Problems (1913 Ed.) Ch. III, pp. 92-108.

17. The Interstate Commerce Commission was provided for by the legislation of 1887 (approved February 4th and in effect April 5th, 1887—24 Stat. L. 379) following the Windom Committee Report of 1874 and the Cullom Committee Report of 1886. The Commission membership in 1887 was composed of five commissioners with a staff of eleven employees. By successive stages that number has been increased to seven, nine, and now eleven commissioners. By 1930 the total of commission personnel stood at approximately two thousand, although it had reached a maximum of 2,254 in 1917, largely as a result of the extensive tasks imposed by the Valuation Act. In 1888 its expenditures were approximately $113,000; and in 1930 they had risen to $8,124,000. *I. L. Sharfman,* The Interstate Commerce Commission, (1935 Ed.) Vol. III-A, p. 90.

steam train), is it any wonder that the motor bus and truck business has mushroomed to threaten seriously the dominance of the railroads—whose peak of 260,000 miles of line was reached in 1930? Or less wonder that the 74th Congress decided to implement the regulatory powers of the Interstate Commerce Commission through the all-embracing provisions of the Motor Carrier Act of 1935?

Wartime emergency gave new growth to inland water, and foreign water, transportation. Likewise, it made possible a technical advance in aeronautical engineering that established a firm foundation for commercial aviation. As a result, new federal agencies of promotion and control have been organized for water and for air transportation.[18]

Having witnessed the rise of four distinct forms of transportation—whose growth has individually manifested itself by sudden spurts rather than by any orderly process—and having witnessed the results of uncurbed competitive forces, we have gradually shifted our thinking away from particular cases—of railroads, of motor buses, etc.—to the more significant and inclusive subject—that of the national *transportation* problem. National policy we have always had. In the past, however, it has been, in the main, distinctly *negative* in character. It would appear that, since the Emergency Railroad Transportation Act of 1933, we have been attempting to develop one that will soon be *affirmative* in character. In order to plan wisely for the future, we should know something of the past. Therefore, if we are interested in developing a sound federal policy for aviation (as part of a larger transportation policy) we must consider—at least briefly—its record to date.

III. The Air Transport Background.

No one can read the history of commercial air transport in the United States without realizing the tremendous debt which aviation owes to the Post Office Department and to a sprinkling of Congressional leaders whose vision and activities have made possible the splendid accomplishments of our scheduled airlines. Seven years after the epochal flight of the Wright Brothers, Congressman Sheppard introduced a bill to consider the cost of carrying mail by air.[19] While Lincoln Beachey, Arch Hoxie, and other intrepid

18. See Inland Waterways Corporation Act, as Amended (43 Stat. L. 360, U. S. Code, title 49, sec. 151); United States Shipping Act (39 Stat. L. 728) and, generally, see Title 46 of the U. S. Code Annotated. For a recent bill pertaining to the American merchant marine, see S. 3500, as amended on March 3, 1936. References to aviation legislation appear elsewhere in the footnotes.

19. *Paul T. David*, The Economics of Air Mail Transportation (The Brookings Institution, 1934 Ed.) p. 1. No one interested in the subject of air mail

pilots were demonstrating the mysteries of flight to an unbelieving populace, the Post Office Department was experimenting with the carriage of air mail between points on Long Island.

Early Air Mail Developments:

Shortly after the declaration of war in Europe, Post Office officials began to stress the military significance of aviation and pointed to the need for a large commercial fleet which could, in time of peace, carry the mail. For the fiscal year of 1918, Congress appropriated $100,000 for air mail transport, and the present service was officially opened on May 15, 1918. The original plan provided for the use of army pilots and military planes no longer needed in service. Certain difficulties arose, and the Post Office Department decided to buy its own ships and hire some of the civilian pilot instructors. With the armistice, came a horde of available army pilots, and questions of policy arose. Should the service be continued? Should army cooperation be invited? The Post Office decided against cooperative effort, but did decide to continue and expand the service. Army planes were purchased and specially stressed to meet commercial needs.

By September, 1920, a transcontinental air mail service had been established from New York to San Francisco, with feeder lines from Chicago to St. Louis and Minneapolis. The new postal administration, entering office in 1921, found the service unsatisfactory, and discontinued all but the transcontinental route. To fully utilize the saving of time afforded by air carriage, night operations were started in 1921 between Chicago and Cheyenne. It was not until 1924, however, that regular night service was instituted. During 1925, the lighted airway was pushed westward to Salt Lake; but, from then on, the Department of Commerce took over the construction and maintenance work under the authority of the Air Commerce Act of 1926.

Air Mail Act of 1925:

It is probable that neither Congress nor the Post Office Department intended government operation of air mail carriage as a permanent policy. But, whatever may have been the initial policy, we do know that legislative authority was provided, in the Air Mail

transportation should fail to consult this excellent monograph. The present writer, in this third section, has followed the author's general outline and desires to acknowledge his debt therefor.

Act of February 2, 1925,[20] for the transportation of air mail by private persons as a result of contract. The approval of the Air Commerce Act of 1926,[21] on May 20, 1926, assisted in the shift from government to private operation. By the terms of that act, the Aeronautics Branch of the Department of Commerce was charged with the duty of providing desirable air navigation aids.[22] The private carriers thus knew that necessary airway aids would be furnished at government expense.

The three basic features of the Air Mail Act of 1925 were as follows: (1) Setting of air mail postal rates at not less than 10c for each ounce or fraction, (2) authorizing the Postmaster General to contract at a rate not to exceed 4/5 of the revenues derived from such air mail, and (3) authorizing the Postmaster General to make necessary rules and regulations. While this act was approved February 2, 1925, no advertisement for bids was issued until July 15, 1925, and the first service over a contract route was not started

20. 43 Stat. L. 805. The provisions of the Act are as follows:
"SECTION 1. That this Act may be cited as the Air Mail Act.
"SECTION 2. That when used in this Act the term 'air mail' means first-class mail prepaid at the rates of postage herein prescribed.
"SECTION 3. That the rates of postage on air mail shall be not less than 10 cents for each ounce or fraction thereof.
"SECTION 4. That the Postmaster General is authorized to contract with any individual, firm, or corporation for the transportation of air mail by aircraft between such points as he may designate at a rate not to exceed four-fifths of the revenues derived from such air mail, and to further contract for the transportation by aircraft of first-class mail other than air mail at a rate not to exceed four fifths of the revenues derived from such first-class mail.
"SECTION 5. That the Postmaster General may make such rules, regulations, and orders as may be necessary to carry out the provisions of this Act: Provided, That nothing in this Act shall be construed to interfere with the postage charged or to be charged on Government operated air-mail routes."

21. 44 Stat. I. 568, as amended by Act of February 28, 1929, c. 369, 45 Stat. 1404, Public Act No. 418, 73d Congress (S. 3526), approved June 19, 1934, and Public Act No. 420, 73d Congress (S. 3646), approved June 19, 1934, 48 Stat. L. 1113. 5 JOURNAL OF AIR LAW 641 (1934).

22. See the general promotional duties in Section 2. Section 5 provides for the transfer from the Post Office Department to the Department of Commerce, part of which reads as follows:
"SECTION 5. Aids to air navigation.—(a) *Transfer of airways, facilities, etc., by Postmaster General; expenditure of appropriation.*—Whenever at any time the Postmaster General and the Secretary of Commerce by joint order so direct, the airways under the jurisdiction and control of the Postmaster General, together with all emergency landing fields and other air navigation facilities (except airports and terminal fields) used in connection therewith, shall be transferred to the jurisdiction and control of the Secretary of Commerce, and the established airports and terminal landing fields may be transferred to the jurisdiction and control of the municipalities concerned under arrangements subject to approval by the President. All unexpended balances of appropriations which are available for and which have been allotted for expenditure upon such airways, emergency landing fields, and other air navigation facilities, except airports and terminal landing fields, shall thereupon be available for expenditure under the direction of the Secretary of Commerce, in lieu of the Postmaster General, for the purposes for which such appropriations were made. No part of such unexpended balances of appropriations shall be used for the purchase or establishment of airports or terminal landing fields.
(b) *Establishment of civil airways and navigation facilities; publication of maps; no exclusive right to be granted.*—The Secretary of Commerce is authorized to designate and establish civil airways and, within the limits of available appropriations hereafter made by the Congress, (1) to establish, operate, and maintain along such airways all necessary air navigation facilities except airports; and (2) to chart such airways and arrange for publication of maps of such airways utilizing the facilities and assistance of existing agencies of the Government so far as practicable. The Secretary of Commerce shall grant no exclusive right for the use of any civil airway, airport, emergency landing field, or other air navigation facility under his jurisdiction."

until February 15, 1926—over a year after the approval of the act. Eight routes had been listed and all contracts were made on a basis of not to exceed 80% of the postal revenues. The contracts were made for four years—the full period permitted under the then existing laws.[23] The idea behind the mail legislation was that the government should lose no money for the carriage of air mail. To determine the amount due each carrier, an actual count was made of all air mail postage.

The Amendment of 1926:

The cost of estimating the amount due each carrier by the foregoing process was too great and, as a result, the Air Mail Act was amended as of June 3, 1926.[24] By the terms of the amendment, the Postmaster General was authorized to contract at fixed rates per pound—not exceeding $3.00 per pound for air mail for the first 1,000 miles and not over 30c for each additional 100 miles, and not exceeding 60c per pound for first class mail other than air mail for the first 1,000 miles, and not over 6c per pound for each additional 100 miles. Provision was made in the legislation for the amendment of existing air mail contracts, so steps were immediately taken to shift to a poundage basis.

On February 1, 1927, the air mail rates were revised so that the complex route and zone system was replaced by a simple blanket rate of 10c per half ounce, which rate applied between any two points in the United States. From this moment on, the air mail service was operated at a distinct monetary loss to the government. The contractors had lost money at the start; but, by the end of 1927, had reached a position to carry air mail indefinitely at the then current level of postal rates.

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23. 17 Stat. L. 135, approved June 8, 1872.

24. 44 Stat. L. 692. The provisions of the amendment read as follows: "That Section 4 of the Air Mail Act of February 2, 1925, is amended to read as follows:

> 'That the Postmaster General is authorized to contract with any individual, firm, or corporation for the transportation of air mail by aircraft between such points as he may designate, and to further contract for the transportation by aircraft of first-class mail other than air mail at fixed rates per pound, including equipment, under such rates, rules, and regulations as he may prescribe, not exceeding $3 per pound for air mail for the first one thousand miles not not to exceed 30 cents per pound additional for each additional one hundred miles or fractional part thereof for routes in excess of one thousand miles in length, and not exceeding 60 cents per pound for first-class mail other than air mail for the first one thousand miles, and not to exceed 6 cents per pound additional for each additional one hundred miles or fractional part thereof for routes in excess of one thousand miles in length. Existing contracts may be amended by the written consent of the contractor and the Postmaster General to provide for a fixed rate per pound, including equipment, said rate to be determined by multiplying the rate hereinabove provided by a fraction, the numerator of which is the per centum of revenues derived from air mail to which the contractor was previously entitled under the contract, and the denominator of which is eighty.'

The Amendment of 1928:

The Air Mail Act was again amended, on May 17, 1928.[25] In order to develop a volume of air mail, the postage rate was dropped to 5c per ounce or fraction thereof. Further, to anticipate the expiration of the contracts, it was provided that contractors who had operated satisfactorily for a period of two years could exchange their contracts for "air mail route certificates" for a period not to exceed ten years. These "route certificates" were not defined in the act, but were considered to be in the nature of a franchise allowing indefinite carriage at rates determined periodically by the process of negotiation. The Postmaster General was authorized to make regulations to meet postal needs and to cancel the certificates for failure to comply with the regulations. One of the results of this legislation was to increase the volume of mail carried (due in part to the 5c rate) and, also, to increase the payments made by the government. The service became less than 40% self-supporting.

The Watres Act of 1930:

The Watres Act of April 29, 1930,[26] amending the Air Mail

25. 45 Stat. L. 594. The provisions of the amendment read as follows:
"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That Section 3 of the Air Mail Act of February 2, 1925 (United States Code, title 39, section 463), as amended by the Act of June 3, 1926, is hereby amended to read as follows:
'Section 3. That the rates of postage on air mail shall not be less than 5 cents for each ounce or fraction thereof.'
"SECTION 2. That after Section 5 of said Act (United States Code, title 39, section 465) a new section shall be added as follows:
'Section 6. That the Postmaster General may by negotiation with an air mail contractor who has satisfactorily operated under the authority of this Act for a period of two years or more, arrange, with the consent of the surety for the contractor and the continuation of the obligation of the surety during the existence or life of the certificate provided for hereinafter, for the surrender of the contract and the substitution therefor of an air mail route certificate, which shall be issued by the Postmaster General in the name of such air mail contractor, and which shall provide that the holder shall have the right of carriage of air mail over the route set out in the certificate so long as he complies with such rules, regulations, and orders as shall from time to time be issued by the Postmaster General for meeting the needs of the Postal Service and adjusting air mail operations to the advances in the art of flying: *Provided*, That such certificate shall be for a period not exceeding ten years from the beginning of carrying mail under the contract. Said certificate may be canceled at any time for willful neglect on the part of the holder to carry out such rules, regulations, or orders; notice of such intended cancellation to be given in writing by the Postmaster General and sixty days provided to the holder in which to answer such written notice of the Postmaster General. The rate of compensation to the holder of such an air mail route certificate shall be determined by periodical negotiation between the certificate holder and the Postmaster General, but shall never exceed the rate of compensation provided for in the original contract of the air mail route certificate holder.'

26. 46 Stat. L. 259. The provisions of the amendment read as follows:
"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 4 of the Air Mail Act of February 2, 1925, as amended by the Act of June 3, 1926 (44 Stat. 692, U. S. C., Supp. III, title 39, sec. 464), be amended to read as follows:
'Section 4. The Postmaster General is authorized to award contracts for the transportation of air mail by aircraft between such points

Act of 1925, provided the legal basis for far-reaching changes in the air mail service. While the mail contractors were presumably making a profit from their mail operations, most of them were losing money on their feeder lines and passenger business. They, therefore, were interested in having the government provide in some way for those losses and, as a result, were somewhat reluctant to exchange contracts for route certificates which might make possible a lower compensation. At this point, President Hoover suggested the possibility of establishing a scientific rate formula, and Postmaster General Brown is credited with the development of the new basis embodied in the Watres Act. The *weight* basis of payment was replaced by a *space-mile* basis under which the Postmaster General was authorized to contract for a certain space in an aircraft, operating at a certain time, and pay therefor irrespective of the actual mail volume. Since the amount paid bore no relation to the volume of mail carried, this formula permitted aid to both the strong and weak lines. The military value of the airplane was, of course, stressed fully.

Under the provisions of the Watres Act and the route certificates, the Postmaster General had very broad regulatory control over: (1) route location, (2) route consolidations and extensions, (3) contract bidding conditions, (4) service standards, (5) equipment and personnel, (6) accounts, and (7) compensation—including passenger losses.[27] It is obvious that, while safety regulation remained in the hands of the Aeronautics Branch of the Department of Commerce,[28] the equally important *economic* regulation was all centered in the hands of the Post Office Department.

A Request for Stability:

When, during the summer of 1931, it became apparent that the Postmaster General intended to enlarge the system by the extension

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as he may designate to the lowest responsible bidder at fixed rates per mile for definite weight spaces, one cubic foot of space being computed as the equivalent of nine pounds of air mail, such rates not to exceed $1.25 per mile: *Provided*, That where the air mail moving between the designated points does not exceed twenty-five cubic feet, or two hundred and twenty-five pounds, per trip the Postmaster General may award to the lowest responsible bidder, who has owned and operated an air transportation service on a fixed daily schedule over a distance of not less than two hundred and fifty miles and for a period of not less than six months prior to the advertisement for bids, a contract at a rate not to exceed 40 cents per mile for a weight space of twenty-five cubic feet, or two hundred and twenty-five pounds. Whenever sufficient air mail is not available, first class mail matter may be added to make up the maximum load specified in such contract.'

27. *Paul T. David*, The Economics of Air Mail Transportation, p. 106.

28. Relative to the function performed by the federal Bureau of Air Commerce, see *Fagg and Fishman*, "Certificates of Convenience for Air Transport," 3 JOURNAL OF AIR LAW 226, particularly 231 (1932). For the general airline safety regulations, see Bulletin 7-E, as amended.

of existing lines rather than by opening the new routes to competitive bidding, a distinct protest was heard from the independents who had been building up an airline passenger business without benefit of mail contracts. During that same year, labor conditions had given rise to the Air Line Pilots Association. The air mail budget of 20 million for the fiscal year of 1932 was cut to 19 million for 1933. When it was realized that such action meant no further expansion, the various lobbying interests renewed their vigor in approaching Congress for aid. Severe competition and political and other uncertainties had thus crept into the industry. With the approach of route certificate expirations in April of 1936, the feeling became general that some stabilizing influence was the greatest need of the operators. The following testimony makes that feeling clear:

"We are not particularly interested in the money that we made last year, or the money that we may make this year. What we are interested in is establishing ourselves in this business not for the period of our present route certificates which expire in May, 1936, but for all time. We are puzzled as to what may be ahead of us after May, 1936 . . .

"It seems to me that what this business needs is a settling down. There never has been a time in this business when we could plan ahead more than a year with certainty of carrying those plans into effect. When a thing gets to be as big as this is, it is embarrassing and dangerous to be in a position where plans cannot be made and carried out deliberately over a reasonable length of time . . .

"We believe that when 1936 comes, there should be some provision made which will permit us to permanently operate over the lines that we are now operating over with rates that are reasonable, and that we should be permitted to establish ourselves just as the railroads have established themselves. 1936 is not very far in the future . . . We have great hopes that long before 1936 you will provide the legislative vehicle that will let us stay in this business . . . ."[29]

The only hope for stability, as then envisaged, lay in the direction of placing the regulatory powers in the hands of a special commission or in the Interstate Commerce Commission[30] and removing them from the long-time friend—the Post Office.

Air Mail Cancellation:

On February 9, 1934, came the startling cancellation order—effective February 19th.[31] This pronouncement, by Postmaster

29. Testimony of Colonel Paul Henderson at the Air Mail Hearings. House Committee on Post Office and Post Roads, March 2, 1932, pp. 67-69. Cited in *David*, p. 203.

30. *David, op. cit.*, p. 203.

31. The following telegram was sent, on February 10, 1934, to each of the air mail contractors: "You are hereby notified that I have entered following order quote Pursuant to the authority vested in me by Section Thirty-Nine Fifty

General Farley, came as a result of the disclosures of a special Senate investigating committee and of investigations conducted by himself.[32] The main ground seems to have been dissatisfaction with the conference of operators in 1930, leading up to the awarding of the two transcontinental contracts without competitive bidding. By an executive order, dated February 9th, President Roosevelt directed the Secretary of War to furnish pilots and equipment necessary to carry the mail during the emergency.[33] Thirty-four

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Revised Statutes of the United States Act of June Eighteen Seventy-Two (Thirty-Nine United States Code Section Four Thirty Two) and by virtue of the general powers of the Postmaster General it is Ordered that the following air mail contracts be and they are hereby annulled effective midnight February Nineteen, Nineteen Thirty Four, quote routes, route certificates and contracts held by you including contract air mail route number ..... stop. You are instructed to receive no mail for transportation hereafter that cannot reach its destination within the effective date of the order. JAMES A. FARLEY, Postmaster General."

32. *David, op. cit.*, p. 205.

33. The President's order reads as follows: *"Whereas* by an order of the Postmaster General of the United States all domestic air-mail contracts for carrying the mails have been annulled; and

"Whereas the public interest requires that air-mail service continue to be afforded and the cancellation of said contracts has created an emergency in this respect;

"Now, Therefore, I, Franklin D. Roosevelt, President of the United States, under and by virtue of the authority in me vested, do hereby order and direct that the Postmaster General, Secretary of War and Secreary of Commerce, together with other officers of their respective departments, cooperate to the end that necessary air-mail service be afforded.

"It is further ordered and directed that the Secretary of War place at the disposal of the Postmaster General such airplanes, landing fields, pilots and other employes and equipment of the army of the United States needed or required for the transportation of mail, during the present emergency, by air over routes and schedules prescribed by the Postmaster General. FRANKLIN D. ROOSEVELT."

On March 27, 1934, Congress passed legislation authorizing this army mail carriage (48 Stat. L. 508) as follows:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That during the period not to exceed one year after the date of passage of this Act the Secretary of War is authorized to place at the disposal of the Postmaster General such airplanes, landing fields, pilots, and other employees and equipment of the Army of the United States as may be needed or required for the transportation of mail during such period by air over routes and schedules prescribed by the Postmaster General: *Provided,* That this authority shall not be used unless and/or until such airplanes shall be fully equipped with the special equipment necessary by standard practice for safe night and day air-mail transport; and that pilots shall not be assigned to such airplanes unless and/or until fully and adequately trained in the use of such special equipment.

SECTION 2. The Postmaster General is authorized to transfer to the War Department such sums appropriated under the Act approved March 3, 1933, making appropriations for the Treasury and Post Office Departments for the fiscal year ending June 30, 1934, for the inland transportation of mail by aircraft, and for the incidental expenses thereof incurred from and after February 10, 1934, as may be required to pay the expenses of carrying the mails of the United States as provided in section 1 hereof, including replacement for all airplanes and equipment and other material damaged, destroyed, or expended thereby: *Provided,* That officers, warrant officers, and enlisted men of the Army on duty hereunder, while away from their permanent posts of duty, shall be paid the same per diem as is payable to civilian employees of the United States under the Subsistence Expense Act of 1926, as amended.

SECTION 3. The performance by military personnel of duty hereunder shall in no way disturb or change their military status under their respective commissions, warrants, or enlistments, in the Army, or any right, privilege, benefit, or responsibility, growing out of said military status.

SECTION 4. In case any officer (including warrant and Reserve officers) or enlisted man is injured or killed while performing duty hereunder the Administrator of Veterans' Affairs is authorized and directed to pay to such officer or enlisted man, and/or his dependents, pension at the rate prescribed in part I, Veterans' Regulation Numbered 1 (a), and amendments thereto: *Provided,* That in the event of injury of any such officer or enlisted man the degree of disability resulting therefrom shall be determined pursuant to the rating schedule

private companies yielded the carriage of air mail to the army. The death of twelve military pilots between February 16-March 9 elicited a letter from the President on March 10, 1934, which ordered a cessation of air mail carriage by the Air Corps. Undoubtedly this action, coupled with a growing popular demand, encouraged Congress to provide legislation looking to the return of the service to private operators.

The Air Mail Act of 1934:

The Air Mail Act of June 12, 1934,[34] was passed as expeditiously as possible and was accepted merely as a temporary measure—largely because it provided for the appointment of a special commission to carefully investigate all phases of aviation and recommend policies and legislation looking toward a more permanent administrative organization and control.

The basic features of the Air Mail Act of 1934, and its changes, have been summarized as follows:[35]

Postal Rates. The rate of postage is reduced from 8 cents for the first ounce and 13 cents for each additional ounce to 6 cents for each ounce or fraction thereof.

Duration of Contracts. The term of contracts is radically changed from that in force under former legislation. The Act of 1930—repealed in this bill—provided that contracts once let could be extended for a total period of ten years.

Contracts under the new bill are to be awarded for "initial periods of not exceeding one year." After the initial period, if the contractor has performed satisfactorily, the contract shall be continued in effect for an indefinite period.

Public Utility Law—The Interstate Commerce Commission. The unlimited life of contracts principle, apparently borrowed from the indeterminate permits of public utility law, is in company with other features of public utility practice incorporated in the new bill, to-wit:

The Interstate Commerce Commission becomes an active participant in the administration of air law for the first time. Any contract continued after the initial period may be terminated by the Commission on sixty days' notice and hearing.

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authorized by Veterans' Regulation Numbered 3 (a): *Provided further*, That choice shall be made of the benefits provided in sections 4 and 5 of this Act.

SECTION 5. Reserve officers performing duty hereunder shall be deemed to be in the active military service and if injured or killed such officer and/or his dependents and beneficiaries shall be entitled to the same benefits as in the case of officers of the Regular Army and/or their dependents and beneficiaries. Section 4 and this section shall be deemed to take effect on February 10, 1934.

SECTION 6. The Postmaster General shall make a report to the Congress of every payment made by him under this Act, including the cost of transporting the mail by the War Department, on the first day of the next session of the Congress."

34. 48 Stat. L. 933, 5 JOURNAL OF AIR LAW 462 (1934), amended by Joint Resolution of June 26, 1934, 48 Stat. L. 1243, 6 JOURNAL OF AIR LAW 134 (1935).

35. For this excellent summary, the writer is indebted to Colonel John H. Wigmore, who prepared it in his capacity as Legal Counsel, for the use of the Senate Sub-Committee on Aircraft Investigation.

While competitive bidding is retained as an element in awarding contracts, the Interstate Commerce Commission is required to fix fair and reasonable rates of compensation for each route "but not in excess of the rates provided for in this act." This mandate is a continuing one and requires a review of the rates of compensation at least annually. "In determining what may constitute an unreasonable profit the said Commission shall take into consideration all forms of gross income derived from the operation of airplanes over the route affected.

Also if where he deems all bids excessive or if there is but one bid the Postmaster General may refer the matter to the Interstate Commerce Commission and then the Commission has jurisdiction to direct action in the premises.

Compensation Limits. Limitations of compensation to contractors contained in Section 3 (a) are:

(1) 33⅓ cents per airplane mile for loads of mail not exceeding three hundred pounds.

(2) Each contract shall provide a base compensation for transportation of three hundred pounds of mail or fraction thereof plus one-tenth of such base rate for each additional one hundred pounds or fraction thereof;

(3) Computation of average mail load shall be made monthly for the purpose of determining said compensation; and

(4) "In no case shall payment exceed forty cents per airplane mile."

Assignment. Contracts may only be assigned with the consent of the Postmaster General.

Extensions. The Postmaster General may extend a route not to exceed one hundred miles "and only one such extension shall be granted to any one person, and the rate of pay for such extension shall not be in excess of the contract rate on that route." The total air mail system, including extensions, shall not exceed 29,000 miles and air mail transportation shall not exceed an annual aggregate of 40,000,000 airplane miles.

Existing Contracts. Existing contracts may be confirmed by the Postmaster General and he is authorized to extend such contracts not exceeding nine months in the aggregate.

Application of Railway Mail Provisions. The administrative methods and procedure for adjustment of rates provisions for carriage of mail by railroads, incorporated in Section 523 to 568, inclusive, are made applicable to ascertainment of air mail rates.

The referred to provisions of the Postal Service Appropriation Act provide: for adjustment of compensation by the Postmaster General; fines imposed by the Postmaster General for failure or refusal to perform service; requirements that all railroad common carriers carry mail; determination of just and reasonable rates by the I. C. C.; statement by the Postmaster General to be filed with the I. C. C. showing a plan of service and stating what the Postmaster General believes to be reasonable compensation; hearings by the I. C. C.; classification for rate-making by the I. C. C.; orders by the Commission; re-examination; use of carriers by the Postmaster General for the return of empty mail sacks and other postal equipment; weighing mail; fine for refusal of carrier to carry mail; additional service and curtailment and

discontinuance of service; special contracts at higher rates; fines for failure to furnish equipment and deductions in compensation for reduction or infrequency of service.

Accounting—Rate Base. The Postmaster General may regulate the accounting practices of contractors and the Interstate Commerce Commission is given like powers.

In fixing and determining the fair and reasonable rates of compensation for air mail transportation, the Commission shall give consideration to the amount of air mail so carried, the facilities supplied by the carrier, and its revenue and profits from all sources, and from a consideration of these and other material elements, shall fix and establish rates for each route which, in connection with the rates fixed by it for all other routes, shall be designed to keep the aggregate cost of the transportation of air mail on and after July 1, 1938, within the limits of the anticipated postal revenue therefrom.

Unfair Practices. Section 7 prohibits, after December 31, 1934, air mail contractors holding interest in any other aviation enterprise except that contractors may own and operate landing fields and appurtenances. Conversely, other aviation enterprises are prohibited from holding any interest in air mail contracts. Contractors are prohibited from employing any person in a managerial capacity who has entered into any unlawful combination to prevent air mail bidding.

The Postmaster General, under this Section, is given power to require an affidavit of a contractor stating that said contractor will not combine to prevent air mail bidding or, if said contractor pays any officer more than $17,500 per annum, an affidavit so stating may be required.

Claims Against the United States. Where formerly existing contracts have been annulled, claims thereon are allowed to be prosecuted in the Court of Claims.

Stockholders of Bidders. All bidders must furnish the Postmaster General with a list of stockholders holding more than 5 per centum of the capital stock of said bidder, a financial statement and, in the case of a corporation, the original amount paid to the corporation for its stock. The Postmaster General may consider this information in determining the qualifications of the bidder.

Equipment. The Secretary of Commerce shall specify the speed, load capacity and safety features of equipment to be used on each air mail route.

Safety of Pilots. The Secretary of Commerce shall regulate the hours and retirement benefits of pilots and mechanics.

National Labor Board. All contracts shall be let on the condition that rates of compensation, working conditions and relations of all pilots, mechanics and laborers of contractors shall conform to the decisions of the National Labor Board—saving to such employees the right of collective bargaining.

Radio. The Federal Radio Commission shall give equal facilities to mail and passenger planes.

Penalties. Penalties are provided for interfering with competitive bidding and violation of the Act.

Aviation Commission. The President is authorized to appoint a commission of five members (not more than three from any one party) "for the purpose of making an immediate study and survey and to report to Congress not later than February 1, 1935, its recommendations of a broad policy covering all phases of aviation and the relation of the United States thereto. Members appointed who are not already in the service of the United States shall receive compensation of not exceeding the rate of compensation of a Senator or Representative in Congress."

A Secretary is provided for this commission at not to exceed $5,000 annual salary and $75,000 is appropriated for administrative purposes.

IV. Special Aviation Commission Recommendations.

Since the World War, there have been five principal official reports on the condition of aeronautics, both civil and military, in the United States, with conclusions of policy and recommendations to the Congress. These reports are as follows:

(1) The Crowell Commission Report of 1919.
(2) The Morrow Board Report of 1925.
(3) The Breckinridge Committee Report of 1935.
(4) The Baker Committee Report of 1934.
(5) The Federal Aviation Commission Report of 1935.

These reports are sufficiently summarized in the following abstracts:[36]

The Crowell Commission Report:

(American Aviation Mission, Chairman Benedict Crowell, Assistant Secretary of War; Report of July 19, 1919, to the Secretary of War; consulted in British Parliament Document Cmd, Air Ministry, October, 1919.)

This Commission was to visit Europe and report on Aviation as to (I) Organization, (II) Development, commercial, (III) Development, technical.

I. Organization:

The Commission recommended

1. Concentration of all aviation activities—civilian, naval, military—into a single department, with a Cabinet officer at the head.
2. Schools to be established, preparing for a National Air Service.
3. Coordination with War and Navy Departments by
   (a) Keeping Supply and Training under Secretary for Air,
   (b) Transferring to Army or Navy Command the operations of Air forces.

36. For the entire summary of reports contained in this section, the writer is indebted to Colonel John H. Wigmore who prepared it, in his capacity as Legal Counsel, for the use of the Senate Sub-Committee on Aircraft Investigation. The writer clearly recognizes that the recommendations of some of these committees pertain very largely to matters other than civil aeronautics. He has included them, however, due to the fact that they will continue to serve in the formulation of a national air transportation policy.

II. Commercial Development:

1. Air Department to establish flying routes, publish maps, etc.
2. Air Department to establish airports, and to encourage their further establishment by local authorities; subject to uniform Federal control by law.
3. Air Department to equip all routes and ports with communication apparatus—as is done for marine shipping.
4. Air Department to establish meteorological service.
5. Air Department to provide research and training facilities and to encourage research by universities.
6. Air Department to encourage technical development (as in III below).
7. Air Department to negotiate for uniform international regulations, and to establish Federal regulations for safety in commercial air traffic and for promotion of commercial air traffic; air-commerce to be regulated only by Federal law as interstate commerce.
8. Insurance against air-risks to be encouraged.
9. Commercial aviation to be encouraged by payment for mail and express, by guarantees of volume of business, and by "Compensation for keeping their facilities available for use in time of war."

III. Technical Development:

1. Air Department to have a Technical Division, to cover
   - (a) Research and testing
   - (b) Utilization of new improvements discovered in practice
   - (c) Attention to needs of Army, Navy and Civil aviation
   - (d) Development of all incidental apparatus (parachutes, munitions, etc.)
   - (e) Extension of technical aid to inventors and designers
   - (f) Encourage private designs for heavier-than-air, etc. and "avoid competition with the industry"
   - (g) Encourage competitive design in all branches
   - (h) Publish all technical data, and keep advised of technical progress abroad
   - (i) Pay for independent design and experimentation
   - (j) Inspect and test all experimentation, and issue certificates of air-worthiness
   - (k) Cooperate closely with technical and industrial bodies

The Morrow Board Report:

President Coolidge, at the request of the Secretaries of War and of Navy, on September 12, 1925, appointed a Board of nine persons to report on "the best means of developing and applying aircraft in national defense."

Mr. Dwight Morrow was chairman; the other members included Gen. Harbord, Admiral Fletcher, Howard Coffin, and William Durand (aeronautic experts). Hearings lasted 4 weeks, and 99 witnesses appeared. On November 30, 1925, the Board presented a printed 35-page report. (Sen. Doc. 18, 69th Congress, 1st Sess.) The report opens with a statement that the most contrary views were presented, both as to facts and as to policies. It then divides itself into two parts; I, General Policies, II, Specific Measures

I. General Policies:

1. The military and the civilian services "should remain distinctly separate." [This is just the opposite of the Crowell Board's view.] The reasons given for this view are convincingly stated.
2. Civilian use of aircraft should be promoted
   (a) By establishing a Bureau of Air Navigation, under an Assistant Secretary of Commerce
   (b) By lightening the burden resting on private capital in financing the development of aircraft, airways, and navigation facilities
   (c) By reducing air-travel hazards
   (d) By formulating basic air laws
   (e) By providing government inspection and licensing, with a view to safety
   (f) By developing insurance facilities.
3. The military air policy of the U. S. should regard aircraft "primarily as an agency of defense"; and in this connection
   (a) This country is not in serious danger of air attack from any potential enemy
   (b) There should not be a Department of National Defense, consolidating Army, Navy, and Air.
   (c) There should not be a separate Department of Air. (Reasons for this are persuasively stated.)

II. Specific Recommendations:

1. The Army.
   (a) The "Air Service" should become "Air Corps"
   (b) The Air Corps should be under an additional Assistant Secretary of War
   (c) The General Staff should have an Air Section
   (d) Two more brigadier generals should be appointed in the Air Corps
   (e) Rank in the Air Corps should be made commensurate with command in certain cases
   (f) Extra pay for flying in peace times should be regularized
   (g) Training for reserves, etc., should be provided

(h) More enlisted men as pilots should be used

(i) Special appropriations to provide for the newest types of equipment are needed for a period of years.

2. The Navy.

(a) An additional Assistant Secretary of the Navy should be appointed

(b) The scheme of promotion should be made fairer to air officers

(c) Flight pay should be improved

(d) Training for reserves should be enlarged

(e) Aviators should be represented in the offices of the Chief of Naval Operations and the Bureau of Navigation

(f) Command of flying activities should be given only to naval aviators

(g) Aviation duty and sea-duty should be better coordinated

(h) Special insignia and decorations should be provided

(i) Aeronautic design and construction should be given better recognition

(j) Use of enlisted men as pilots should be increased.

3. The Aircraft Industry. Because of the importance of aircraft to national defense, and of the necessity for immediate expansion of the air force in time of war, the industry should in time of peace be fostered by the following measures:

(a) Continuity of orders and standard of replacement

(b) Orders given only to well qualified companies

(c) Proprietary design-rights to be fully recognized

(d) Governmental competition to be eliminated

(e) Small orders for experimental designs at liberal prices to be regularly given

(f) Statutory requirement of competitive bidding to be modified for the purpose of (e)

(g) Governmental research and testing facilities to be liberally continued.

The Breckinridge Committee Report:

On April 3-4, 1933, the dirigible U. S. S. Akron crashed into the sea on the New Jersey coast, with total destruction of ship and company (except three survivors). A joint Committee of the two Houses of Congress, with 10 members, was appointed to investigate and report on Dirigible Disasters. The Committee between April 25 and June 6 held hearings, and heard 56 witnesses. A report was filed (not dated nor signed) printed as "Congress, 1st session, Committee Print: Airship Investigation. Report of Col. Henry

Breckinridge, Counsel for the Joint Committee to Investigate Dirigible Disasters."

The report (excluding appendices, pp. 17-177) covers 16 pages and makes the following recommendations:

1. and 2. Cause of the crash was navigation into storm conditions.
3. and 4. Development of airships by the Navy should be continued.
5. Training and experiment should be continued. Command of airships should be given only to experienced officers. Specialization by officers in aircraft should not impede promotion.
6. Training-ship should be built, and two regular ships be maintained with the fleet.
7. The Weather Bureau should issue daily four general weather maps instead of two only.

The Baker Committee Report:

On April 17, after the Postmaster General's cancellation of the airmail contracts and the Army Air Corps had been carrying the mail in the winter of 1933-34, with consequences that led to public discussion, the Secretary of War appointed a Committee to report on "the operation of the Army Air Corps and the adequacy and efficiency of its technical flying equipment and training for the performance of its mission in peace and in war." Former Secretary of War Newton D. Baker was chairman, and there were six civilian members and five military members. The Committee was directed to include in its report a "study of the proper relationship between Army aviation and Civil aviation." After taking the testimony of 105 witnesses with a record of 4,283 pages and after visiting the various aviation centers and receiving 536 communications from Air Corps officers, the Committee filed its report on July 18, 1934.

Its conclusions and recommendations were as follows:

1. Relatively to foreign countries; in *general* aviation, the U. S. A. leads; in *commercial* aviation it is superior; in *naval* aviation it is stronger; in *military* aviation it needs more financial support.
2. The *military policy* is and should be limited to national defense. The present organization is sound, but lacks adequate financial support.
3. The aviation *industry* is essential to national defense.
   (a) Hence it should be encouraged by an annual program of procurement for Army and Navy, by a more liberal policy of design competitions and orders for experimental types.
   (b) The Government should not compete with private industry.
   (c) Purchase by *design competition* and by *negotiation* should be allowed by law, and not merely purchase by open competitive bids.

(d) *Proprietary design* rights should be fully recognized.

(e) Industrial allocations, as between Army and Navy should be handled by the Joint Board.

4. The Air Corps should remain in the Army, under an Assistant Secretary of War for Air.

5. Within the Air Corps should be a Headquarters Combat Force. Combat and Procurement should each have a chief.

6. Air Corps Interior Organization and Strength should be changed in numerous details as to personnel, training, promotion, etc.

7. The armament, equipment, munitions, etc., of the Air Corps are deficient, due to lack of appropriations. "Practically all of the matters presented calling for remedial action are traceable to lack of funds."

8. Civil aviation being essential in preparation for national defense,

(a) Airways, air navigation facilities, and ground facilities should be developed.

(b) Commercial pilots should be encouraged to join the Army Reserve.

(c) Army pilots should be trained to use the national airways.

(d) By liaison, the Army Air Corps should be kept in touch with latest commercial transport equipment and methods, which are always the most advanced, and should adopt them.

(e) Cargo and transport planes should be converted or developed from commercial types.

The Federal Aviation Commission:

By the Air Mail Act of June 12, 1934, the President was authorized to appoint a Commission to report on "a broad policy covering all phases of aviation and the relation of the U. S. thereto." The Chairman was Clark Howell of Atlanta, with four associates (three of whom were experts in various phases of aviation); the Secretary was a member of the Bureau of Air Commerce; and the Commission retained two legal advisers versed in aviation law. The Committee spent two months in a 13,000-mile travel tour of the U. S. A., the Chairman visited four European countries; from September to November some 200 witnesses were heard, with a record of 4500 pages. Its report of 254 pages was transmitted to Congress on January 31, 1935.

The recommendations were divided under twelve heads, as follows:[37]

I. Air Transport.

II. Miscellaneous Civil Aviation.

III. Airports.

IV. National Defense Organization.

37. Only part of the Commission recommendations can be included here. For full summary, see 6 JOURNAL OF AIR LAW 163 (1935), and for a commentary thereon, see *Robert Kingsley*, "The Report of the Federal Aviation Commission: A Commentary," 6 JOURNAL OF AIR LAW 177 (1935).

V. Procurement of Matériel.
VI. Coast Guard.
VII. Lighter-than-Air Craft.
VIII. Relation of Government to Industry.
IX. Research and Education.
X. General Governmental Organization.
XI. Aeronautical Law.
XII. Air Commerce Commission.

I. Air Transport:

(1) It should be the policy of the United States to maintain a position of world leadership in air transport, and to lend such air as may be necessary to insure that the most modern and efficient equipment and methods shall be applied on American domestic and foreign air lines.

(2) There should be no legal limitation upon the growth of air transport.

(3) The carriage of mail should be put on a commercial basis, with payments to lines within the amount received by the Post Office. Whatever additional sums are for the time being necessary to maintain and develop adequate transport services should be allocated specifically to that purpose by the government.

(4) There should be a close and continuous governmental control of the financial aid having to be given to air lines. Certificates of convenience and necessity should be issued under proper safeguards and specifications. Provisions should be made to specify a minimum quality of service and a minimum frequency of schedule on air lines. Rates of fare should be subject to governmental approval, and the financial structure of air lines should be supervised and their general conformity with the letter and spirit of the law watched over by appropriate governmental agencies. For these purposes we suggest the creation of a nonpartisan commission, described in detail in another section of our report.

(5) All regular domestic scheduled transport operations should require a certificate of convenience and necessity, to be issued by the commission hereinafter proposed. Such certificates should not be cancelled except for good cause without equitable compensation to the holder.

(6) Direct Federal aid should not as a matter of course be extended to all air lines having certificates of convenience and necessity, but only to such air lines as are deserving of such aid in the public interest.

(7) Every air line operating on December 1, 1934, should be considered to have a presumptive right to the receipt of a certificate of convenience and necessity.

(8) The development of new airways and the provision of navigation facilities thereon should be a responsibility of the Department of Commerce, subject to commission approval.

(9) It should be the general policy to preserve competition in the interest of improved service and technological development, while avoiding uneconomical paralleling of routes or duplication of facilities.

(10) The Post Office Department should be free to use any service that exists, without being limited by specific contracts.

(11) The rates to be paid by the Post Office Department to air lines carrying mail should be fixed by the commission hereinafter proposed.

(12) The direct financial aid given to air lines should be under the constant control of the commission, and subject at all times to revision as technical improvement, changes in operating conditions, or the needs of the particular territory served may require. The formulas under which aid is extended should be such as to encourage good management and technical progress, and to stimulate rapid evolution towards complete self-support and independence of direct governmental aid.

(13) The control of a multiplicity of air lines through holding companies should be prohibited. The ownership of stock in air lines by corporations engaged in other activities, or the interlocking of diverse aeronautical interests, should be strictly controlled by the commission hereinafter proposed. Nothing should be permitted which would in any way reduce the effectiveness of any competition, the preservation of which could serve the public interest, or which would interfere with the exercise of the government's regulatory functions. Subject to these paramount considerations, the door should be left open as far as possible for a free flow of investment capital into air transportation in the interest of a strengthening of its structure and an improvement of its facilities.

(14) Air Lines should be made eligible, as railroads now are, for loans from the Reconstruction Finance Corporation upon suitable security.

(15) In connection with the placing of the carriage of air mail upon a strictly commercial basis, involving no net financial burden upon the Post Office Department, there should be authorization for experiments with special classes of lightweight air mail matter carried at a low rate, in the interest of an increase of the total volume of air mail and the gross receipts of the service.

(16) It should be a duty of the commission hereinafter proposed to require periodic financial and operating reports from all air

lines, to examine into their status at suitable intervals, and to make public record of such reports.

(17) It should be the policy of the commission herein proposed to subscribe to the principles contained in Section 7 (a) of the National Industrial Recovery Act, and to foster adherence thereto, in all branches and activities of air transport; and to use its influence to bring together employers and the duly chosen representatives of their own choosing of the several crafts and callings with a view to agreeing upon a method of procedure to be followed in the handling and adjustment of all questions involving wages, hours, and conditions of employment.

(18) The control, in the interest of public safety, of the minimum standards of equipment and the operating methods and organizations and ground facilities of civil aeronautics should continue approximately as at present, but under the jurisdiction of the commission hereinafter proposed.

(19) There should be no attempt to require the inclusion of military features in the design or equipment of transport airplanes.

(20) Air transport in American territories and possessions should be developed, and in particular there should be an increase of air transport service and ground facilities available for air navigation in Alaska.

(21) The national policy of stimulating air transport should extend to the promotion of American-flag air lines connecting the United States with our territories overseas and serving our major trade routes to foreign countries. The time has now come when air transport can be regarded on a world-wide basis, and in particular when the early inauguration of regular trans-oceanic services by aircraft can be foreseen.

(22) The Secretary of Commerce should study ways and means to foster American air lines to foreign countries and recommend to the Congress, from time to time, legislation governing the extension of financial aid. Consideration should be given to the nature of similar aid given the merchant marine, with a view to developing a coordinated policy.

(23) The policy of making available for the carriage of mail all American air lines rendering regular service, and of payment by the Post Office Department to the air lines only for service rendered, should be extended to future arrangements for foreign air lines. The rates of payment to the air lines for the carriage of mail should be fixed by the commission hereinafter proposed, and such additional aid as may be necessary to build up and maintain a proper service under the American flag outside of the boundaries of the United States should be allocated by the commission.

(24) No change should henceforth be made in the existing foreign

air-mail contracts except with the approval of the commission hereinafter proposed.

(25) The governmental administration of foreign air transport should as far as possible be kept similar to that of the domestic air line system, but with such modifications as may be clearly necessitated by a fundamentally different political, legal and operating status. The status of American air transport in foreign fields competing with foreign-owned air lines should in general not be one of competition between American lines, but of carefully-controlled regional monopoly. The general powers of the commission hereinafter proposed in connection with foreign air transport should be essentially similar to those which it enjoys in the domestic field, and the commission should have the additional power of stipulation for fixed periods certain minimum and maximum conditions of service and of governmental aid in the interest of stability of the undertaking and of encouragement of large investment in ground facilities.

(26) The policy of the United States should be to support and assist American air lines in their relations with foreign governments and with foreign competitors. It should be considered as in the public interest to regulate and control foreign air lines entering the United States with the purpose of securing for American air lines equality of opportunity in foreign countries.

(27) It should be provided by legislation that American air lines outside the continental United States should have the same opportunity now given by the Shipping Act to American steamship lines to enter into trade and traffic agreements with their competitors. Such agreements should be subject to approval by the commission hereinafter proposed.

(28) The existing regulations for customs clearance, immigration, and public health clearance should undergo early revision and the greatest possible measure of simplification to meet the special problems of aircraft operation in international service.

(29) As a measure of immediate emergency, the present Air Mail Act (Public 308, 73rd Congress) should be amended so as to empower the Interstate Commerce Commission to revise existing air mail rates either upward or downward as the facts may warrant, and subject to such revision existing contracts should continue in force until such date as the commission hereinafter proposed, in the exercise of its full powers and duties, may prescribe.

(30) As a measure of immediate emergency, the provisions of the present Air Mail Act (Public 308, 73rd Congress) regarding the designation of primary and secondary routes, and the prohibition of an air line from holding more than one primary and two secondary route contracts, should be

amended so as to postpone their effective date to January 1, 1936.

XII. Air Commerce Commission:

(102) There should be created an air commerce commission, its members appointed by the President by and with the consent of the Senate for long terms. The commission so created should have broad supervisory and regulatory powers over civil aeronautics and particularly over domestic and foreign air transport. It should have all powers necessary to the attainment of its general supervisory and regulatory purposes, including the power to hold hearings and conduct investigations upon any subject pertaining to civil aeronautics. It should be subject to merger by executive order at any time with any other body of a similar nature having similar functions.

V. Legislative Proposals in 1935.

Federal Coordinator of Transportation:

Late in January, 1935, the Third Report of the Federal Coordinator of Transportation was transmitted to Congress. The section pertaining to air carriers reads as follows:

"In his Second Report, the Coordinator traced the development of commercial air transportation and discussed the organization and condition of the industry, and the character and extent of existing Federal and State regulation. This conclusion was reached:

> The need for added Federal regulation of air lines is sufficient to warrant definite recommendations in the form of a bill of proposed legislation at this time. Owing, however, to the fact that Congress has under consideration and doubtless shortly will enact measures intended to meet immediately urgent conditions, which measures may materially change the present set-up and the problems of the industry, it is deemed to be the sounder course to postpone for a time the formulation of specific legislative proposals. Developments in the ensuing months can be observed and their bearing on a program of permanent legislation determined. It is well, however, to record at this time the carefully considered belief that *regulation, when undertaken, should be placed in the hands of the Interstate Commerce Commission.* This agency could perform the work expertly and at small added cost. The addition of this function would represent a logical rounding out of the program of regulation of the several agencies of transportation which is recommended elsewhere in this report.

"The essentials of such a program were indicated to be 'the administration of payments for the carriage of the mail, the administration of any subsidies which Congress may authorize in the future, and control of entrance into the industry and of extensions of lines.' Control of accounting, capitalization, and mergers or acquisitions was also referred to as likely to be necessary to secure effective results. Control of passenger and express rates was not considered necessary, at least for the time being.

"As was anticipated, much has happened since these views were ex-

pressed. The Air Mail Act, 1934, authorizes the Postmaster General to award, on the basis of competitive bidding and subject to certain minimum rates of compensation, contracts for the transportation of air mail, and to extend, for a period not exceeding 9 months, the short-term emergency contracts let under competitive bidding. The Interstate Commerce Commission is given certain duties in the fixing and determination of fair and reasonable rates of compensation for the transportation of air mail, and it has created a Bureau of Air Mail to aid in the performance of these duties.

"The Air Mail Act also provided for the appointment of a Commission, known as the Federal Aviation Commission, to study the situation and report its recommendations 'of a broad policy covering all phases of aviation, and the relations of the United States hereto.' The creation of this Commission emphasizes the broad scope of the problems created by the rise of transportation by airplane. Regulation of commercial air transport as an economic enterprise is only one of these problems. Military aviation, the need for further promotion of safety, and the determination of proper relations between the manufacturers and the operators of airplane equipment are some of the other large questions which fall within the scope of the inquiry.

"The field of organized, commercial air transport is, however, a distinctive one and in it lie problems which permit of segregated treatment. In view of the creation of the Federal Aviation Commission and the special study which it has given to these questions, the Coordinator has not undertaken to arrive at conclusions and make recommendations on his own account. In the reorganization of the Interstate Commerce Commission hereinafter proposed, however, *place is provided for the regulation of commercial air carriers,* if it should be decided to assign this duty to the Commission."[38]

Federal Aviation Commission:

A few days thereafter, on January 31, 1935, the Report of the Federal Aviation Commission was transmitted to Congress. The report, it will be remembered, included 102 recommendations covering all phases of aviation. The entire civil aeronautics program of the commission (except for emergency problems of primary routes and increased rates of pay) was embodied in the provisions of the commission bill, introduced on the same day by Mr. Lea of California and known as H. R. 5174.

The objectives of the bill, briefly stated, were as follows:

(1) To create an independent administrative agency which should have broad supervisory and regulatory powers over

(a) domestic and foreign air transport (including control of competition, service, air mail pay, other rates, and the awarding of subsidies), and

(b) other phases of civil aeronautics (including all the activities now carried on by the Air Regulation Division of the Bureau of Air Commerce);

38. Report of the Federal Coordinator of Transportation, 1934, (74th Congress, 1st Session. House Doc. No. 89) pp. 18-19. Italics ours.

(2) To provide for the transfer or merger of such agency, by Executive Order, to or with any other administrative agency established to control all forms of transportation—when and if such transfer should be deemed desirable (but supposedly not until the immediately pressing problems of aviation had been met and the industry had come nearer to position of economic maturity);

(3) To amend the Air Commerce Act of 1926 so as to modernize its provisions (in keeping with current practices and desires of the Bureau of Air Commerce); and

(4) To codify into one act the essential provisions relative to civil aeronautics and to repeal any conflicting laws.

The bill consisted, therefore, of three sorts of provisions: (1) new provisions describing the organization and authority of the proposed commission—which provisions were taken over or adapted from the standard provisions of the Interstate Commerce Act and Communications Act, (2) new provisions representing the practices of the present Bureau of Air Commerce for which no sufficiently express authority was given in the 1926 Act (or 1934 amendments), but which require legislative expression, and (3) provisions reproducing the language of the 1926 Act, all of which (so far as not obsolete) were included.[39]

It will be noticed that. in answer to an almost unanimous recommendation on the part of aviation experts who testified before it, the commission proposed the setting up of an *independent administrative body* to control all phases of aeronautics—with the expectation that, eventually, such body might be merged into a larger and more comprehensive *transportation board* (such as an enlarged I.C.C.).

Relative to this fundamental commission proposal, the President, in his letter of transmittal, said:

"The Commission further recommends the creation of a temporary Air Commerce Commission. In this recommendation I am unable to concur. I believe that we should avoid the multiplication of separate regulatory agencies in the field of transportation. Therefore in the interim before a permanent consolidated agency is created or designated over transportation as a whole, a division of the Interstate Commerce Commission can well serve the needs of air transportation. In the granting of powers and duties by the Congress orderly government calls for the administration of executive functions by those administrative departments or agencies which have functioned satisfactorily in the past and, on the other hand, calls for the vesting of judicial functions in agencies already accustomed to such powers. It is

39. For a full summary, see *Wigmore and Fagg*, "An Explanation of the Lea Bill," 6 JOURNAL OF AIR LAW 184 (1935). The complete commission bill appears at p. 219 of the same issue.

this principle that should be followed in all of the various aspects of transportation legislation."

With this expression of views, the matter rested. The Federal Aviation Commission disbanded, its report was filed for reference, and the Lea Bill remained in committee.

The McCarran Proposals:

On January 21, 1935, Senator McCarran, who had closely followed the work of the Federal Aviation Commission, introduced a bill (S. 1332) to provide for the promotion and control of all phases of civil aeronautics under the direction of a "Civil Aeronautics Commission." Fully aware of the strong demand for an independent regulatory body, he made adequate provision therefor in his bill.

Following the presentation of their report, the members of the Federal Aviation Commission returned to their homes—as no provision had been made for their continuance as a body after February first. On the other hand, Senator McCarran immediately sought to amend his bill to meet more clearly the suggestions of policy enunciated by President Roosevelt in the above-mentioned letter of transmittal. Accordingly, he introduced S. 3027 May 13 (calendar day, June 10), 1935. After further study and consideration of S. 3027, he proposed an amendment May 13 (calendar day, July 10), 1935. Hearings were held by the Senate Subcommittee of the Committee on Interstate Commerce and certain amendments were proposed and adopted by the committee. The bill was reintroduced and became S. 3420 July 29 (calendar day, August 15) 1935.

The basic feature of the revised McCarran proposal was to place all regulatory authority in the Interstate Commerce Commission. It not only included air carriers but *airport operators* as well, and was so drafted as to become Part IV of the Interstate Commerce Act under the title, The "Air Transport Act of 1935."

It is not the writer's purpose to review all of the testimony presented at the Senate Subcommittee hearings of July 29th, July 30th, July 31st, and August 6th. Instead, he desires only to indicate the fundamental differences of opinion that had developed by mid-summer. Since no final action was taken on S. 3420 by the 74th Congress, the subject matter of these debates is still of consequence. To understand the issues, we must remember that the air mail operators were entirely dissatisfied with the Air Mail

Act of 1934, and that the Amendment (H. R. 6511) was not approved until August 14, 1935, after these hearings were concluded.

Senator McCarran's compromise with desire and practicality, at the opening of the hearings, is manifested by the following statement:

"The Committee will recall that during the Seventy-third Congress I introduced a bill passed upon the same subject. *At that time I believed and I still believe that,* which is my individual belief, *it would have been better to have an independent commission to deal with air transportation. However, the President has taken the view that it should come under the Interstate Commerce Commission,* and while we may not agree entirely, perhaps it would be best to try that out . . . ."[40]

The Senator relied not only on the word of the President as of January 31st, but also upon a later message of June 7th wherein the President recommended the extension of the Emergency Railroad Transportation Act and discussed aviation as follows:

"I have already recommended to the Congress my views with regard to the relations that should exist between the Federal Government and air carriers. Legislation has been introduced for the purpose of carrying out these recommendations. I am in general accord with the substance of this legislation although I still maintain, as I indicated in my message on that subject, that a separate commission need not be established to effectuate the purposes of such legislation. *Air transportation should be brought into a proper relation to other forms of transportation* by subjecting it to regulation by the same agency."

"It is my hope that the Interstate Commerce Commission may, with the addition of the new duties that I have indicated, ultimately become a Federal Transportation Commission with comprehensive powers. It has been my intention to recommend this strongly to this session of the Congress, but the time remaining seems to preclude the discussions necessary for such changes. Such a reorganization should not be delayed, however, beyond the second session of the Seventy-Fourth Congress."[41]

Testimony favorable to the McCarran proposal, as revised, was quickly introduced into the record. A letter from Mr. McManamy, Chairman of the Legislative Committee of the Interstate Commerce Commission, written July 26, 1935, was introduced—part of which reads as follows:

"Subject to the above corrections it is believed that the amended bill will promote the orderly and safe development of air transportation with due regard to the interests of the Government, the public, and the operators."[42]

40. Hearings before a Subcommittee of the Committee on Interstate Commerce of the United States Senate (74th Congress, 1st Session) on S. 3027, p. 22. Italics ours.
41. Hearings, p. 22. Italics ours.
42. Hearings, p. 15.

In an earlier letter of July 19th, Mr. McManamy had set forth the general position of the Interstate Commerce Commission in a more comprehensive statement, part of which is here repeated:

"Domestic air transport had its origin in a desire of the Federal Government to create a superior means of handling the mails and the development of the service is the direct outgrowth of pioneering efforts on the part of the Government itself in originating night-flying and ground aids to navigation which made possible the first transcontinental air-mail route in this country.

"When the Government had accomplished its original purposes of demonstrating the practicability of commercial flying, it turned over the air-mail transportation to private contractors. As a further means of perfecting the service, the Government later encouraged these contractors to provide passenger and express transportation with the expectation that eventually the cost to the Government of transporting the mails could be reduced to a nominal figure. Incidentally, it was thought the establishment of a network of air lines staffed with experienced personnel would serve as an adjunct to national defense.

"Under this policy, the services of these contractors have gradually expanded until now they have in fact acquired the *status of carriers, rather than primarily that of mere contractors for air mail.* They now transport passengers and express under published tariff rates, have entered into interline agreements, both between themselves and with other forms of transport, have established consolidated ticket offices, and, in one instance, three railroads are actively participating in the development of air transportation service for passenger and express.

"Today, practically all domestic transport service is rendered by mail contractors."

"Although there has been a transition in the nature of the services rendered by air carriers, their services are still controlled by contract. The Air Mail Act of 1934 provides some degree of regulatory control over the services and charges, not only for mail, but indirectly to some extent over passenger and express traffic as well. There is thus the anomaly of carrier services being performed, and regulated to a certain extent, under contract. The pending amendments to the Air Mail Act of 1934 would amplify somewhat the present form of regulation, but would not change the method under which the service is being conducted, and would perpetuate the contract basis of mail payments.

"There is no doubt that mail compensation still has an important bearing upon air transportation in this country, and that nevertheless many of the carriers are still operating at deficits. Neither of these facts, of course, alters their status as carriers, but the fact that their operations are authorized and conducted largely—in some cases, entirely—with reference to the mail service, precludes full application of the principles usually attending regulation of carrier services. At present the service is regulated solely with regard to the dispatch of the mail, rather than the public convenience and necessity. Termini of, intermediate stops on, and the frequency of schedules over the routes are decided largely with reference to the desire for mail service, and not with relation to natural traffic flows. Mail loads bear no relation to passenger or express loads, notwithstanding the inflexible limits of the

maximum load capacity of airplanes, with the result that in some instances there is serious interference with the development of passenger and express business. *The present method of conducting the service makes difficult the task of administering what little regulation thereof as a carrier is provided in the present law. The situation cannot be otherwise so long as mail transportation constitutes the predominating and controlling motive and influence of the service.*

"Considering the large sums of money and extensive time and effort which the Government has already contributed to the development and safe operation of air transportation, together with the encouragement it has given private enterprise to enter the field of carrier service by air, it would seem logical that if further development of the service is desired, such development should be carried forward under such regulation as it would eventually receive and which at the same time would give adequate consideration to all phases of the business, instead of exclusively to one. Development in this manner would be more orderly and more in harmony with that of other forms of transportation.

"Assuming that it is the intention to give recognition to the carrier status of the air-transport industry, the amendment seems well designed and suited to meet its objectives, except that minor corrections should be made . . . ."[43]

On August 6th, the Federal Coordinator of Transportation, Mr. Eastman, appeared before the Senate Subcommittee and testified as follows:

"I have the view that it is desirable *one commission should control all forms of transportation* rather than that the subject should be divided up among a number of special commissions, because I think we have got to consider transportation more and more from the general standpoint, with the view of securing a transportation system made up of all those parts which will operate together in the most efficient way, with all transportation agencies interlocking and interrelated to a very considerable extent. I think that is more true of the other forms of transportation perhaps than it is of air transportation. Nevertheless, I think there is an interrelation between air transportation and the other forms of transportation.

"From that point of view I am in favor of legislation which will provide for supervision of this subject by the Interstate Commerce Commission, and I think the Commission can handle it."[44]

Senator McCarran introduced a letter from Chairman Clark Howell (of the Federal Aviation Commission) written on February 25, 1935, in which Mr. Howell stated:

"Permit me, however, to take this opportunity to put myself on record as being in favor of complete regulation of all forms of transportation by the Federal Interstate Commerce Commission—water, air, highway, and railroad."[45]

43. Hearings, pp. 15-17. Italics ours.
44. Hearings, p. 107. Italics ours.
45. Hearings, p. 114.

The Senator claimed that 87.59% of the witnesses who appeared at the hearing, testified in favor of his bill.[46] Mr. Edward G. Hamilton, representing the Air Line Pilots Association, said:

"We have always been in favor of the regulation of our industry by the Interstate Commerce Commission . . . ."[47]

Mr. Edward V. Rickenbacker, General Manager of Eastern Air Lines and Vice-President of North American Aviation, said:

"In principle the bill is very sound."[48]

Mr. Jack Frye, President of Transcontinental & Western Air, Inc., said:

"We believe that placing the business under this jurisdiction of the Interstate Commerce Commission is a sound thing, if done soundly."[49]

Mr. C. R. Smith, President of American Airlines, Inc., stated:

"I think that this bill fulfills one of the objects for which we are all working. I think it is constructive and can be made into very good permanent legislation."

"We very badly need some relief legislation and *I think that perhaps this job could be divided into two parts,* if you will permit my suggestion. *First, the passage of relief legislation,* and *second, the passage of a bill which we hope will be permanent for many years.*"[50]

Mr. William J. Denning, representing Braniff Airways, Wyoming Air Service, Hanford Air Lines, and Varney Air Transport Co., stated:

"This bill seems to be very constructive, and with some additions . . . I think it would be an ideal bill."[51]

Mr. Karl H. Mueller, representing Bowen Airlines, Inc., said:

"I may say that the principles of this bill are the very things that we have been looking for during that entire period of time. . . . We are for the bill whole-heartedly."[52]

Except for the suggestion of President C. R. Smith, on July 30th, that there were *two* distinct jobs to recognize (relief legislation and permanent legislation) there seemed to be no break in the

46. Hearings, p. 112.
47. Hearings, p. 24.
48. Hearings, p. 27.
49. Hearings, p. 31.
50. Hearings, p. 47. Italics ours.
51. Hearings, p. 61.
52. Hearings, p. 75.

favorable testimony until the hearings on July 31st, when Mr. Carleton Putnam, President of Chicago & Southern Air Lines, Inc., suggested an amendment to provide for greater *security* to the operators. That suggestion is an important one to note, for within a few days it came to dominate the situation at the hearings. Mr. Putnam said:

> *"We feel that our security is a vital matter* in all plans starting even from today in the matter of future development and financing, and that any delays which would result from making applications, holding hearings, and all that would be seriously detrimental to our position as small companies, because our entrenchment along our routes is not as complete, and *there is a general psychology here of uncertainty and insecurity* which I think should be terminated as rapidly as possible."[53]

Three very interesting letters are attached to the record of July 31st. The first from Postmaster General Farley, is dated July 11, 1935, and reads, in part, as follows:

> "This Department has consistently maintained the position that the air-transport industry *was not sufficiently well established to warrant its being regulated in the same manner as railroads* have been regulated.
>
> "Air transport lines now depend on their air-mail contracts with the Government for their support, and the Post Office Department has supervision and control over the schedules of these lines. These schedules are fixed by the Department after a most careful survey of the mail service and also the traveling public. The Department is of the opinion that this control should not be taken away from it so long as the planes are used for the transportation of mail.
>
> "The rates of the air-mail carriers are now being fixed by the Interstate Commerce Commission under the Air Mail Act of 1934, and the powers of the Commission are greatly broadened by the bills now pending in the House and in the Senate. These bills both contain provisions allowing the Interstate Commerce Commission to raise, as well as lower, rates from time to time to meet the needs of the air transport lines for efficient operation and maintenance and reasonable expansion in the service. Therefore, the bill would add nothing new of any value in this respect.
>
> "For the reasons stated, the Department does not at this time favor the enactment of the bill."[54]

The other two letters supplement the testimony of Mr. C. R. Smith and Mr. Carleton Putnam. Whatever doubts (as to the security of the airlines) may have existed previously, it is clear that they had assumed considerable proportions by the time these letters were written. A possible choice between frying pan and fire was resolved in favor of the former. Said Mr. Smith:

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53. Hearings, pp. 57-58.
54. Hearings, pp. 89-90. Italics ours.

"A detailed study of the provisions of S. 3027 would indicate that the passage of this measure would serve to end the existing system of air-mail contracts between the carriers and the Post Office Department. *Just what the carriers could expect in lieu of these contracts is not clear to us.*"

"We entered into contracts with the Post Office Department for the carriage of air mail which have resulted in enormous operating losses. These contracts were entered into because we were forced to stay in this business by our stockholders over a period of years. We believed that if we operated with efficiency and accomplished our job of transporting air mail, passengers, and express to the satisfaction of our customers and of the United States Government that *we could reasonably expect a continuation of our contracts at a rate which would permit us to 'break even'* and later earn a reasonable return on our investment. *The assurance that this could be expected has been our incentive to stay in this business,* even though our continued operation has resulted in monthly operating losses ranging from $50,000 or $250,000 a month.

"*We fear that the passage of S. 3027 in its present form would effect air-mail contract cancellation by legislation. We feel that we have no assurance that we would be given rights, franchises, or permits under the operation of S. 3027 to offset the loss we would suffer by reason of cancellation of air-mail contracts by this legislation.*

"The air-transport industry has experienced a period of discouraging uncertainty during the past 15 months. It has been impossible for us to chart the course of our business or to make plans for the future with any certainty of realization.

"We must have new capital in our company before another year in order to provide replacement flying equipment for some of our routes. *Legislation is now pending in both houses of the Congress which would permit the adjustment of rates for the carriage of air mail to those rates already recommended by the Interstate Commerce Commission. We believe that the passage of that legislation will go far toward stabilizing the business and that its passage would permit the air transport companies to obtain needed additional capital.*

"We have no objection to reasonable regulation by the Interstate Commerce Commission, but *we do believe that legislation which would cancel existing air-mail contracts would create confusion and uncertainty in the industry and would retard the constructive development of the business for a long period of time.*"[55]

Mr. Putnam supported this viewpoint, as follows:

"After attending the hearings on this bill, giving it further study and conferring with various Government officials upon its clauses, *Chicago & Southern Air Lines feels unable to lend the measure its support unless full agreement with the Post Office Department has been reached.*"

"Secondly, my company believes that a bill which does away with the contract basis for fixing mail rates and turns control over to the Interstate Commerce Commission in such wide and sweeping terms should have the most careful scrutiny of the Department in whose hands all the legal and

55. Hearings, pp. 91-92. Italics ours.

other details of the air mail system have from the beginning rested. Every small independent company is dependent for its future financing and general security upon the air. No bill which leaves these matters in uncertainty or fails to meet the legal requirements of the Post Office Department in the specification of details, and which at the same time completely wipes out the existing system including all present contracts, can be regarded as anything but dangerous from the viewpoint of the new lines."

"We vigorously urge the immediate passage of H. R. 6511 as a preliminary to a more thorough consideration of permanent legislation."[56]

There is much sense in the recommendations of these airline officials. When they testified before the Federal Aviation Commission, the hostility of the Post Office Department to any administrative change was not known and not seriously anticipated. It was now a recognized fact, and the airlines saw little reason to engage in any further argument as to administrative policy. To them, their own security was quite naturally of prime importance. As Mr. Smith had said, the problem was divided into two parts: (1) immediate, and (2) permanent, legislative proposals. If, therefore, the Post Office Department (for whatever reason) offered a reasonable amendment to the Air Mail Act of 1934 (in the form of H. R. 6511), it might be more expedient to accept its benefit for the immediate future and let the Interstate Commerce Commission and the Post Office Department argue the matter of permanent policy, without participation by the air mail operators. If these operators were not to gain all they wanted as to permanent control, at least they would conserve what they then had. The shift of front, on the part of some of the operators, seems to have been recognized by Post Office officials before Senator McCarran was aware of his loss of support.[57]

There is no need to detail the testimony of the Post Office representatives who appeared at the hearings for they merely relied upon the splendid record of the Department in the past and stated that "until the government subsidy to air transport has ceased, it will not be proper" to put civil air transportation under

56. Hearings, pp. 93. Italics ours.

57. *Mr. Branch.* Let me say that I have had Mr. Smith, President of the American Airlines, to come to see me, and that he indicated he did not agree with this bill. And I think I could name half a dozen more of them.

Senator McCarran. Well, I will say that Mr. C. R. Smith, President of the American Airlines, Inc., appeared here before this subcommittee, and that he represents one of 87.59 per cent of those who testified for and on behalf of this bill.

Mr. Branch. Have you Mr. Smith's letter that he wrote your committee a few days ago?

Senator McCarran. I have not the letter. It may be in the possession of the subcommittee.

Mr. Branch. It might be interesting to read that letter. I think perhaps you will find he does not agree with you like you think he does. (Hearings, p. 112. Italics ours.)

the Interstate Commerce Cimmission.[58] The "Memorandum to the Solicitor," prepared by Mr. Cisler on August 1st, summarizes the position of the Department as to the McCarran bill in a very able way:

"It is understood that *among the things urged as the reason for the passage of this bill is the fact that air transportation is now designed primarily for mail rather than for passengers.* It is true that the growth of the industry has been based on the transportation of mail. It is equally true, however, that in developing the present air mail system the Post Office Department has recognized the necessity for the encouragement of passenger business. *The results prove that passenger business has been encouraged.* For the last 4 consecutive months, passenger records have successively broken all existing records for passenger miles traveled.

"It has been charged that the Post Office Department arbitrarily makes schedules without regard to passenger business. This is not true. Insofar as possible, we approve schedules submitted by the carriers, which schedules are primarily designed from a passenger carrying standpoint. Necessarily we must provide some time for the distribution of mail and no matter what agency makes the schedules, if mail is to be carried such provision must be made if the system is to be worth while from a mail standpoint. Chaotic conditions and inexcusable delays to mail would result if schedules were prepared without giving due regard to the handling of the mail.

"That this can be done with due regard to passenger traffic is proven by the fast schedules which are now in effect. *It is necessary, however, in preparing such schedules that persons familiar with postal problems approve them. It is believed that no agency of the Government is in a better position to prepare and approve schedules which would be most advantageous to the Government than is the Post Office Department.* As has been stated, the Department insofar as possible approves schedules advantageous for passenger travel. The connections which we insist upon for mail are also good for passengers. It must be remembered that in the few instances where we must insist on advantageous schedules and connections for mail that even if there is some slight inconvenience for passengers the Air Mail Service is of primary importance, for, after all, the mail service is for the millions of people who comprise the population of this country, and it is the mail service that has paid the bills for the comparatively small number of people who travel on the air lines. *With another agency of the Government making schedules, it might be necessary for the Post Office Department to discontinue the use of certain trips or routes which would be of no value because of the poor schedules and connections. We have examples in our railroad schedules today where we have found that it was of advantage to the public to discontinue the railroad service in favor of the star route truck service* which offered better schedules. I am attaching copy of Postal Bulletin showing a few sample schedules. A complete set of schedules is available if necessary.

"It has been argued that many of the routes established by the Post Office

58. See the forceful statements of Harllee Branch, Second Assistant Postmaster General; Karl A. Crowley, Solicitor, Post Office Department; and S. A. Cisler, General Superintendent Division of Air and Railway Mail Service, Post Office Department. Hearings, pp. 108-127.

Department could be eliminated and that the money that is spent on some of the smaller routes should be concentrated to develop large trunk lines. The Post Office Department feels that justice demands that every part of the country share the Air Mail Service, and the system has been laid out with that in mind. The development of the Service is further ample proof that a sound system has been built. A route that is a good mail route is likewise a good passenger route, considering the potential traffic. In organizing the routes, the Post Office Department has followed certain natural trade courses, providing for a fast flow of mail between the larger centers of population, with a few feeder routes to give service to those States which are justly entitled to some share of the Air Mail Service. Certain technical problems present themselves in establishing a route. The agency which is charged with the duty of prescribing air-mail routes must have some knowledge of postal problems which will be encountered. For instance, it must be kept in mind that in the event of cancelation mails must be trained, and it is necessary that an air-mail route be established along certain points which will allow the most advantageous training of the mail. It is obvious, however, that what would be advantageous in expediting the mail would also be advantageous in expediting a passenger. *No other agency of the Government understands the problems of mail handling as does the Post Office Department.*

"I am attaching hereto tables which show that mail is constantly increasing under the present system. October 1934 broke the existing records; December broke that record; March again broke the record, when, for the first time in history, the poundage dispatched over various routes was over a million pounds; and successively since March, April, May, and June dispatches have been over one million pounds. As mail has increased, express is also increasing. The same is true of passenger travel. In March of this year the revenues were three times the revenues of any previous March. Passenger miles in March, April, May, and June have successively broken all previous records by a substantial margin. Practically every major route in the country within the past year has placed into service improved passenger equipment. Within the last year the Bureau of Air Commerce has cooperated with the Post Office Department in every way by providing airways with the most modern facilities. *With such a state of improvement in mail, passengers, and express business and improvements in airways, airports, airplanes, and safety instruments, it would appear that the present plan of organization should be continued; that is, that the Post Office Department will prescribe the routes and schedules; the Bureau of Air Commerce supervise the airways, planes, and safety features; and the Interstate Commerce Commission prescribe the rates.*"[59]

A long and carefully prepared letter from Secretary of Commerce Daniel C. Roper evidenced a willingness to consider innovations, but urged the Senate subcommittee to proceed with the utmost caution:

"Might we suggest, therefore, that your committee consider very carefully all of the elements involved in effecting an immediate transfer of avia-

59. Hearings, pp. 123-4. Italics ours.

tion control to the Interstate Commerce Commission, or any other body without extensive aviation background, which is not completely set up at this time to administer the affairs of the air transportation industry. While we see no objection to transferring to the Interstate Commerce Commission matters of a judicial or a quasi-judicial nature, pertaining to air transport, we believe that a further study by your committee will reveal certain aspects of administrative problems not now evident and will serve to more clearly define those administrative features which have already presented themselves. *We therefore suggest a most careful and thorough study of these factors before proceeding with such comprehensivev legislation as is proposed in S. 3027."*[60]

The revised McCarran bill was favorably reported to the Senate by its interstate commerce committee and passage of the bill at the first session of the 74th Congress was urged. Congress did not so act during that first session.

VI. Air Mail Law—As Amended in 1935.

On February 21, 1935, a second amendment of Section 15 of the Air Mail Act was approved so as to extend the primary route prohibition date to April 1, 1936.[61] This was enacted to relieve from a difficult situation until a more permanent system could be developed.

However, the situation was by no means satisfactory to the operators and, when new legislative proposals were made to take the matter out of the hands of the Post Office (such as the McCarran bill), department officials became increasingly interested in patching up the 1934 act in order to relieve the immediate tension and perhaps forestall any permanent legislation removing control from the Post Office. Approval followed close on the heels of the Senate Subcommittee hearings referred to and, on August 14, 1935, several important changes were effected.[62]

The important changes are as follows:

(1) *Contracts*—could now be awarded for initial periods of *three* years (instead of for one year).[63]

(2) *Route extensions*—could be made on condition that all extensions in effect at one time on any route should not exceed 250 miles and payments be not in excess of the rate per mile fixed for the service thus extended.[64] (Former extensions limited to 100 miles).

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60. Hearings, p. 127. Italics ours.
61. Public No. 12 (74th Congress, 1st Session).
62. H. R. 6511 (Publ. No. 270, 74th Congress). For a copy of the complete act, showing the 1935 amendments in italics, see 6 Journal of Air Law 594 (1935).
63. Sec. 3 (a).
64. Sec. 3 (b).

(3) *Primary routes*—the basis of selection was considerably broadened and the coastal routes could be regarded as other than primary routes.[65]

(4) *Aggregate mileage*—raised to 32,000 miles (instead of 29,000 for route mileage, and total airplane-miles paid for raised to 45 million (from 40 million)). New regulatory powers over schedules and pay bases added.[66]

(5) *Rate review*—by I. C. C. now restricted to determination of fair and reasonable rates of compensation *within the limitations of this Act* [presumably 3 (a)]. Commission authority to cover not only each route but also *over each section thereof covered by a separate contract.*[67]

(6) *Examination of airline records*—annually by I. C. C. to be assured that no unreasonable profit is being derived. This section very materially enlarged to increase the scope of the I. C. C. audit.[68]

(7) *Continuation of contracts*—terms of continuation changed slightly to differentiate between dates of letting of contracts and to restrict slightly the authority of the I. C. C.[69]

(8) *Basis of rate determination*—enlarged by adding new directions to I. C. C. as to the disregarding of airline losses resulting from non-mail schedules. The burden of establishing the insufficiency of compensation placed on the carrier.[70]

(9) *Report of free transportation*—new paragraph added to provide for furnishing data as to passes granted.[71]

(10) *Salary limit*—of $17,500 stated to refer to total compensation—from whatever source derived.[72]

(11) *Auditing of Accounts*—section altered to increase power of Post Office over the keeping of books by the contractors.[73]

(12) *Labor conditions*—to be governed by decisions of the National Labor Board, *or its successor in authority.*[74]

(13) *Restriction as to contract awards*—this section has been completely rewritten and enlarged. No person holding one primary route contract may receive another, although he may receive contracts for not more than 3 other routes. Parallel routes may not be merged or be entered into common control agreements. Off-line competition, other than that maintained on and prior to July 1, 1935, prohibited. I. C. C. authorized to consider unfair practices of air-mail contractors.[75]

Congressman Mead, chairman of the House committee on Post Office and Post Roads, made the following statement by way of explaining the essential features of the amendments of 1935:

"The prime purpose of this bill is to amend existing law so as to enable the Interstate Commerce Commission to increase, as well as decrease, the

65. Sec. 3 (d).
66. Sec. 3 (f).
67. Sec. 6 (a).
68. Sec. 6 (b).
69. Sec. 6 (c).
70. Sec. 6 (e).
71. Sec. 6 (f).
72. Sec. 7 (d).
73. Sec. 10.
74. Sec. 13.
75. Sec. 15.

rate of payment for the carriers of air mail. Under existing law the Interstate Commerce Commission may revise rates, but in no case in excess of the bid rate. Under this bill the Interstate Commerce Commission may revise rates in excess of the bid rates but not in excess of the basic rates contained in the law. The basic rates contained in the law permit a maximum rate of not to exceed 33⅓ cents per mile for loads not in excess of 300 pounds.

"In practical application this will permit the Interstate Commerce Commission to disregard the bids submitted over a year ago by the contractors and give them a fair and reasonable rate, but not in excess of 33⅓ cents per mile. This was the prime reason for the legislation. After it left the House there was a demand that we liberalize certain features of the bill, particularly the feature with respect to off-line flying, and the House conferees agreed to a liberalization of that feature of the bill so that off-line flying will now be permitted to such a degree as was in operation prior to June 30 last, and the Interstate Commerce Commission will not only have authority to pass on off-line flying such as was in existence prior to June 30 last, but they will also have authority to consider increasing off-line flying as well as restricting or eliminating it.

"So the bill, as it comes back to the House, is more liberal from this standpoint than it was when it left the House. In a word, it permits the Interstate Commerce Commission to exercise more control over air mail, to increase rates within certain limitations, and to make such other adjustments and regulations as the bill provides."

VII. Safety Investigations, 1935-36.

Prior to the Senate Subcommittee hearings on the McCarran bill and prior to the passage of the amendments of the Air Mail Act, an airline disaster in Missouri prompted the introduction of a Senate Resolution on May 13, 1935, which may have far-reaching effect and which reads as follows:

"Whereas an airpline owned by Transcontinental Western Air, Incorporated, while engaged in interstate air commerce was wrecked near Macon, in the State of Missouri, on the 6th day of May, 1935, resulting in the death of five persons, among whom was an honored member of this body, Honorable Bronson M. Cutting; and

"Whereas it is imperative that life and property transported through interstate air commerce should be accorded the greatest degree of safety obtainable through the use of every reasonable safeguard; and

"Whereas it is essential, in order to protect life and property in transportation through the air, that a thorough and searching inquiry should be made into the causes of the wreck referred to and into the efforts, if any, for the prevention of accidents of like character, and the safeguards, if any, provided both by the companies engaged in interstate air commerce and the precautions and safeguards, if any, required by governmental agencies; and

"Whereas such investigation and the knowledge to be derived therefrom are necessary to enable the Congress to adopt legislation for the protection of life and property by air transportation: Therefore be it

"*Resolved,* That the Committee on Commerce, or a subcommittee thereof, be, and it is hereby, authorized and directed to investigate fully and thoroughly the said wreck of the airplane owned by Transcontinental Western Air, Incorporated, which occurred on the 6th day of May, 1935, near Macon, in the State of Missouri, and any other accidents or wrecks of airplanes engaged in interstate air commerce in which lives have been lost; and to investigate fully and thoroughly interstate air commerce, the precautions and safeguards provided therein, both by those engaged in such interstate air transportation and by officials or departments of the United States Government; and to investigate fully and thoroughly the activities of those entrusted by the Government with the protection of property and life by air transportation, and the degree, adequacy, and efficiency of supervision by any agency of Government including inspection and frequency thereof, and to take testimony in all aspects in relation to any of the matters herein indicated and in relation to any subject related thereto: Be it further

"*Resolved,* That the said Committee on Commerce, or the subcommittee thereof appointed for the purpose, shall determine what legislation, if any, shall be adopted in the interest of safety of life and property transported in interstate air commerce, and what legislation, if any, shall be adopted to prevent accidents in the air and to provide appropriate safeguards for their prevention: And be it further

"*Resolved,* That for the purposes of this resolution, such committee, or any duly authorized subcommittee thereof, is authorized to hold hearings, sit, and act at such times and places during the sessions or recesses of the Senate during the Seventy-fourth and succeeding Congresses, until a final report is submitted; to employ such counsel, experts, clerical, stenographic, and other assistance, and to require, by subpena or otherwise, the attendance of witnesses, the production of books, papers, and documents, to administer oaths, take testimony, and make such expenditures as it deems advisable. The cost of stenographic services to report such hearings shall not be in excess of 25 cents per hundred words. The expeness of such committee not to exceed the sum of $10,000, shall be paid from the contingent fund of the Senate upon vouchers approved by the chairman."[76]

Shortly after the middle of August, Chairman Mead, of the House committee on post office and post roads, proposed an investigation of air mail transport operations with respect to safety and with respect to the method or methods adopted by the Commission in fixing rates of compensation for transportation of mail by air.[77]

These committees are now at work and, while some hearings have been held, it is entirely too early to attempt any opinion as to the nature of their final recommendations. The excellent work done by these, and other, Congressional committees would indicate the desirability of having standing committees on civil aviation in both

76. S. R. 146 (74th Congress, 1st Session).
77. H. R. 324 (74th Congress, 1st Session).

houses of Congress. The gains made possible by experience could thus be preserved.

VIII. Summary and Conclusion.

The complete transportation story is, of course, too long to tell within the compass of a single article. The present attempt, therefore, has been directed only to a sketch of those essential elements which have (or might have) received weight in the formulation of a national air transportation policy.

The writer has not thought it desirable to review again the lengthy arguments, so ably advanced by the Federal Aviation Commission, in favor of an independent air commerce commission. If we obtain an enlargement of the present Interstate Commerce Commission, along the lines proposed by the Coordinator, and if aviation interests are properly provided for under such an expansion by commissioners experienced in air transport problems, then perhaps a separate aviation body will not be necessary or practicable. If the plans of the Coordinator fail to receive consideration within a reasonable period, then all the arguments set forth by the Federal Aviation Commission may be presented with even greater forcefulness. Some day it will be realized that the report of that commission represents a storehouse of valuable aviation information, and, when that time comes, it will be removed from the Congressional shelf and put to its intended use.

Confining our attention now only to the transport side of aviation (and leaving the tremendous fields of non-scheduled transport and private flying completely untouched), the summary may be presented briefly perhaps as follows:

The Expert Recommendations:

1st Federal Aviation Commission Representative: "Aviation, like the merchant marine, has outgrown the Post Office."[78]

2nd Federal Aviation Commission Representative: "Permit me, however, to take this opportunity to put myself on record as being in favor of the complete regulation of all forms of transportation by the Federal Interstate Commerce Commission."[79]

Senate Subcommittee Expert: "From a governmental point of view, every bureau in the Government has its fingers in the aviation pie."[80]

Air Line Pilot: "We believe that this important regulation (safety)

78. Edward P. Warner, Vice-Chairman, *U. S. Air Services*, March, 1936. p. 7.
79. Clark Howell, Chairman. Hearings, p. 114.
80. Carl Dolan. Hearings, p. 79.

should be turned over to the Interstate Commerce Commission"[81] (and so taken away from the Department of Commerce).

AIR LINE EXECUTIVE: "We believe that placing this business under the jurisdiction of the Interstate Commerce Commission is a sound thing. . . ."[82]

The Conflict of Authority:

THE PRESIDENT: "Air transportation should be brought into a proper relation to other forms of transportation by subjecting it to regulation by the same agency. . . . Such a reorganization should not be delayed, however, beyond the second session of the Seventy-fourth Congress."[83]

I. C. C. REPRESENTATIVE: "I am in favor of legislation which will provide for supervision of this subject by the Interstate Commerce Commission, and I think the Commission can handle it."[84]

POST OFFICE DEPARTMENT: "The Department is of the opinion that this control should not be taken away from it. . . ."[85]

DEPARTMENT OF COMMERCE: "We suggest a more careful and thorough study . . . before proceeding with such comprehensive legislation. . . . Aviation is in such a formative state and its problems are so complex, and changing with great rapidity, that I am sure . . . further . . . effort will be productive of highly gratifying results."[86]

The Dilemma:

AIR LINE EXECUTIVE: "We feel that our security is a vital matter in all plans."[87]

There remain at least three choices: (1) Assume that the present federal aviation policy is sound and so let it alone; (2) Assume that the present governmental control is basically unsound and seek to effect a change at once; or (3) Assume the present policy unsound—yet seek change only after careful study and, possibly, under more favorable meteorological conditions.

One thing seems certain: He who advocates an immediate change in federal aviation policy and organization should be prepared to battle valiantly for a cause he believes sound, or he should, before engaging in the fray, heed that ancient admonition—not arising from, but perhaps pertinent to, aviation: *Don't upset the applecart!*

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81. Edward G. Hamilton. Hearings, p. 25.
82. Jack Frye, President of Transcontinental & Western Air. Hearings, p. 31.
83. Letter of June 7, 1935. Hearings, pp. 21-22.
84. Mr. Eastman. Hearings, p. 107.
85. Letter from Postmaster General Farley, July 11, 1935. Hearings, pp. 89-90.
86. Letter from Secretary of Commerce Roper, August 6, 1935. Hearings, pp. 127-130.
87. Carleton Putnam, President of Chicago and Southern Air Lines, Inc. Hearings, p. 57.

DEVELOPMENTS IN THE CODIFICATION OF PRIVATE INTERNATIONAL AIR LAW*

STEPHEN LATCHFORD†

Public International Air Law:

A clear distinction should be made between international conventions within the field of private international air law and public international air-law conventions and agreements. The following multilateral conventions on public international air law have been adopted:

International Convention for the Regulation of Aerial Navigation, signed at Paris, on October 13, 1919.[1]

Ibero-American Convention Relating to Air Navigation, signed at Madrid on November 1, 1926.[2]

Habana Convention on Commercial Aviation, signed at Habana, Cuba, on February 20, 1928, during the Sixth International Conference of American States.[3]

Each of the above multilateral conventions accords to civil aircraft of any one of the contracting parties the right to enter the territory of the other contracting parties, subject to certain limitations which are set forth in the convention. Numerous bilateral

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* Part of an address entitled "Codification of Private International Air Law" delivered before the Federal Bar Association, at the University Club, Washington, Jan. 21, 1936. Excerpts reprinted from XIV *The Department of State Press Releases* No. 331, p. 121 (Saturday, February 1, 1936).

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1. 11 League of Nations Treaty Series 174. For amended text of convention see Bulletin No. 22 of the International Commission for Air Navigation, pt. 2, p. 1, Secretariat, 15 *bis* rue Georges-Bizet, Paris.

2. For a comparison of the Ibero-American Convention with the Paris Convention of 1919, see Enquiries Into the Economic, Administrative and Legal Situation of International Air Navigation (League of Nations Organization for Communications and Transit, Geneva, 1930), p. 178. The Ibero-American Convention contains fewer annexes of technical regulations than the Paris Convention of 1919. In all other respects the provisions of the two conventions are very much the same.

The Paris Convention of 1919 was signed by countries in various parts of the world; the Ibero-American Convention was signed by Spain, Portugal, and the Latin American countries; and the Habana Convention on Commercial Aviation was signed by the United States and the Latin American countries.

3. Department of State Treaty Series, No. 840. The Habana Convention on Commercial Aviation differs in form from both the Paris Convention of 1919 and the Ibero-American Convention of 1926, but contains a number of the basic principles of these two conventions. Unlike these two conventions, however, the Habana Convention has no annexes containing technical regulations.

aeronautical agreements within the field of public international air law have been concluded between various countries, with the same end in view.

There is another multilateral convention which, although not dealing specifically with the right of aircraft of one of the contracting parties to enter territory of the other parties, may be considered to be within the field of public international air law. This is the International Sanitary Convention for Air Navigation,[4] adopted by the Permanent Committee of the International Public Health Office in Paris at its session of April 29, 1932, and left open for signature at The Hague on April 12, 1933. Under the terms of this convention each of the contracting parties will, with respect to aircraft of other parties permitted to enter its territory, have the right to impose certain sanitary and quarantine measures designed to guard against the introduction of communicable diseases.

The International Convention for the Regulation of Aerial Navigation of October 13, 1919, was signed on behalf of the United States but has not been ratified by this Government, which is therefore not a party to the convention. The Ibero-American Convention of November 1, 1926, was not signed by the United States, nor has this country adhered to the convention. The Habana Convention on Commercial Aviation, adopted at Habana, Cuba, on February 20, 1928, was signed on behalf of the United States, which has become a party to the convention by ratification. It came into force between the United States and other countries parties thereto on August 26, 1931. The International Sanitary Convention for Air Navigation, which was left open for signature at The Hague on April 12, 1933, was signed on behalf of the United States on April 6, 1934, and has been ratified by this Government. It came into force between the United States and other countries parties thereto on November 22, 1935.

The United States has, in addition to becoming a party to the Habana Convention on Commercial Aviation, dealing with the right of entry of civil aircraft, entered into a number of bilateral air-navigation agreements on this subject, within the field of public international air law.[5]

Private International Air Law:

The International Committee [International Technical Committee of Aerial Legal Experts—C.I.T.E.J.A.] has completed its

4. Department of State Treaty Series, No. 901.
5. [See 6 JOURNAL OF AIR LAW 261 (1935) for list (Ed.).]

work on five important international conventions and has nearly completed its labors on two others. These conventions are as follows:

(1) **The Warsaw Convention.** The Convention for the Unification of Certain Rules Relating to International Transportation by Air was adopted and signed at Warsaw, Poland, on October 12, 1929, during the Second International Conference on Private Aerial Law.[6] A preliminary draft of this convention was prepared by the International Committee and referred to the Warsaw Conference for final adoption and signature. As stated, *supra,* the delegates to the First International Conference on Private Aerial Law, held in Paris in 1925, adopted a convention relating to the liability of the aerial carrier in the transportation of passengers and cargo, as well as a resolution recommending the creation of an international committee on private aerial law. The convention adopted at that Conference was referred to the International Committee, after its organization, for further study. The Committee thereupon prepared its own draft, which was the one referred for consideration to the Second International Conference on Private Aerial Law, held at Warsaw in October, 1929. The convention adopted at Warsaw was signed on behalf of 23 countries and is now in force among most of the countries of the world in which air transportation on an international basis is well developed. In the Western Hemisphere the convention has been adhered to by the United States, Mexico, and Brazil. The convention became effective on October 29, 1934, between the United States and other countries parties thereto.

The Warsaw convention provides uniform rules concerning the form and effect of transportation documents such as passenger tickets, baggage checks, and aerial way bills.[7] The effect of the

6. The United States was not officially represented at the First and Second International Conferences on Private Aerial Law, being represented only by observers, and did not sign the convention relating to international transportation by air adopted in preliminary form at the First International Conference and in final form at the Second International Conference.

7. Treaty Series, No. 876. See *Alexander N. Sack,* "Unification of Private Law Rules on Air Transportation and the Warsaw Convention," 4 Air Law Review 345; *George R. Sullivan,* "The Codification of Air Carrier Liability by International Convention" (an individual study made in conjunction with the Air Law Institute of Chicago), 7 JOURNAL OF AIR LAW 1; *Maschino,* "La Convention de Varsovie et la Résponsabilité du Transporteur aérien," 14 Droit Aérien 4 (1930); *Riese,* "Observations sur la Convention de Varsovie," 14 Droit Aérien 216 (1930); "General Conditions of Transport," 3 Revue Aéronautique Internationale 78 (1933). This is an agreement made between the air-navigation companies members of the International Air Traffic Association—I. A. T. A.—composed of European air-transport operators. The agreement became effective at the same time that the Warsaw convention came into force, *i. e.,* Feb. 13, 1933.

The courts of the United States have not, so far as the writer is aware, had occasion to construe the terms of the Warsaw convention of Oct. 12, 1929. A case in which the Warsaw convention was considered has, however, arisen in the British courts. This is the case of *Grein* v. *Imperial Airways, Ltd.,* decided on Oct. 23, 1935, by Mr. Justice Lewis in the High Court of Justice, King's

convention is to create a presumption of liability against the aerial carrier on the mere happening of an accident occasioning injury or death of passengers or loss of or damage to baggage or cargo, subject to certain defenses allowed to the carrier under the terms of the convention. However, the convention contains provisions placing a limitation on amounts for which the carrier shall be liable, but he is not entitled to avail himself of the provisions of the convention which exclude or limit his liability if the damage is caused by his willful misconduct or by such default as is considered to be equivalent to willful misconduct, or, in certain cases with respect to transportation of cargo, if the transportation documents are not furnished in accordance with the requirements of the convention.

(2) **Mortgages, Securities, and Aerial Privileges.** At the sixth annual session of the International Committee held in Paris in October, 1931, the Committee completed work on a Draft Convention on Mortgages, Other Real Securities, and Aerial Privileges.[8] This convention has not yet been referred to a general international conference on private aerial law for final adoption and signature. It may be explained at this point that while a session of the Committee is in a sense an international conference, the term "international conference" as used in this discussion refers to a diplomatic conference or a meeting of officially accredited delegates appointed by the various governments for the purpose of taking definite action on a draft convention completed by the International Committee.

The Draft Convention on Mortgages, Other Real Securities, and Aerial Privileges governs the status of mortgages obtained on

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Bench Division, Royal Courts of Justice. The full text of the opinion may be found in 7 JOURNAL OF AIR LAW 128.

See also *Arnold W. Knauth*, "Federal Airship Foreign Commerce Bill," 2 JOURNAL OF AIR LAW 202; *Edgar Allan Poe*, "The Proposed Federal Merchant Airship Act and Its Comparison with the Existing Maryland Act," 3 JOURNAL OF AIR LAW 179; *John C. Cooper*, "Rules of Aircraft Liability in the Proposed Federal Merchant Airship Act," 2 Air Law Review 327 [Note: The congressional bills discussed by Messrs. Knauth, Poe, and Cooper were not enacted into law.]; *John F. O'Ryan*, "Limitations of Aircraft Liability," 3 Air Law Review 27; *Arnold W. Knauth*, "Limitation of Aircraft Owner's Liability," 3 Air Law Review 135; *William M. Allen*, "Limitation of Liability to Passengers by Air Carriers," 2 JOURNAL OF AIR LAW 325; *E. A. Harriman*, "Carriage of Passengers by Air," 1 JOURNAL OF AIR LAW 33; *Rowan A. Greer*, "The Civil Liability of an Aviator as Carrier of Goods and Passengers," 1 JOURNAL OF AIR LAW 241; *George B. Logan*, "The Liability of Airport Proprietors," 1 JOURNAL OF AIR LAW 263; *John K. Edmunds*, "Aircraft Passenger Ticket Contracts," 1 JOURNAL OF AIR LAW 321; *Frank E. Quindry*, "Airline Passenger Discrimination," 3 JOURNAL OF AIR LAW 479; *Warren Jefferson Davis*, "State Regulation of Aircraft Common Carriers," 1 Air Law Review 47; *Howard Osterhout*, "The Doctrine of Res Ipsa Loquitur as Applied to Aviation," 2 Air Law Review 9; *Francis H. Bohlen*, "Aviation Under the Common Law," 6 Air Law Review 155; *André Kaftal*, "Liability and Insurance—the Relation of Air Carrier and Passenger," 5 Air Law Review 157; *J. Francis McCormick*, "Air Negligence," 5 Air Law Review 333; *Carl Zollmann*, "Aircraft as Common Carriers," 1 JOURNAL OF AIR LAW 190; *Irwin S. Rosenbaum*, "Regulation of Aircraft as Common Carriers," 3 JOURNAL OF AIR LAW 194; *Frank E. Quindry*, "Air Express," 4 JOURNAL OF AIR LAW 145.

8. The complete text of this draft convention may be found in Treaty Information Bulletin No. 40, January, 1933, p. 33.

aircraft as security for the payment of debt. It specifies what fees, charges, or expenses incurred by the aircraft are entitled to preferences over mortgage claims. It is contemplated by the convention that there shall be a register that may be consulted by interested parties in which there shall be included data pertaining to any attachment proceedings.

(3) **Ownership of Aircraft and Aeronautic Register.** At its sixth annual session held in Paris in 1931, the International Committee completed work on a Draft Convention on the Ownership of Aircraft and the Aeronautic Register.[9] This convention has not yet been referred to a general international conference on private aerial law for final adoption and signature. By this draft convention, the high contracting parties would undertake to establish in their national laws that every aircraft registered in accordance with these laws would be included on a register for the publicity of rights, having in view the inscription of ownership and other rights. These data might be entered upon the ordinary register for the aircraft or such data might constitute a special register. All transfers of property *inter vivos,* assignments, cessions of real rights, and renunciations of such rights would be valid with regard to third parties only through their inscription on the register and would produce no legal effect until the date of such inscription.

(4) **Precautionary Attachment.** The delegates to the Third International Conference on Private Aerial Law, a diplomatic conference, held in Rome in May, 1933,[10] adopted and signed a Convention for the Unification of Certain Rules relating to the Precautionary Attachment of Aircraft. The convention was signed on behalf of 25 countries, including the United States. The preliminary draft of this convention as referred to the Rome Conference was prepared by the International Committee. The convention as adopted at Rome has not yet been ratified by a sufficient number of countries to put it into force.[11] It has not been ratified by the

9. The complete text of this draft convention may be found in Treaty Information Bulletin No. 40, January, 1933, p. 38.

10. See favorable report of the House Committee on Foreign Affairs on a recommendation by President Hoover that an appropriation be authorized to defray expense of participation by the United States in the Third International Conference on Private Aerial Law (H. Rept. 1950, 72d Cong., 2d sess.). [Note: The resolution under consideration failed of passage. The United States was, however, officially represented at this Convention by delegates who signed the conventions adopted.]

11. The complete text of the convention as adopted and signed at Rome may be found in Treaty Information, Bulletin No. 47, August, 1933, p. 22. Art. 11 of the Convention provides that the convention shall come into force 90 days after the deposit of the fifth ratification. It has so far been ratified only by Germany, Spain, and Rumania. No decision has been reached by the Department of State on the question of recommending to the President that the convention be transmitted to the Senate of the United States for its advice and consent to ratification. This convention was signed at Rome on the same date as the Convention for the Unification of Certain Rules Relating to Damages

United States. This convention exempts certain classes of aircraft, including government aircraft and aircraft employed on a regular line of communication, from what is known as a precautionary attachment. A precautionary attachment, within the meaning of the convention is any act, whatever it may be called, whereby an aircraft is seized in behalf of a private interest through the medium of agents of justice or of a public administration, for the benefit of a creditor, or of the owner, or of the holder of a lien on the aircraft, where the attaching claimant cannot invoke a judgment and execution, obtained beforehand in the ordinary course of procedure, or an equivalent right of execution. The convention sets forth the conditions under which the right of exemption from a precautionary attachment may be invoked, and is understood to be intended to prevent an undue interruption in international transportation, which would result from the seizure and detention of aircraft, where the aircraft are owned and operated by responsible organizations.

(5) **Damages to Third Parties on the Surface.** The delegates to the Third International Conference on Private Aerial Law held at Rome in May, 1933, also adopted and signed a Convention for the Unification of Certain Rules relating to Damages Caused by Aircraft to Third Parties on the Surface. The preliminary draft of this convention as considered at Rome was prepared by the International Committee. The convention as adopted at Rome was signed on behalf of 26 countries, including the United States. It has not yet been ratified by a sufficient number of countries to put it into force, and has not been ratified by the United States. This convention provides for the payment of damages in cases of injury to persons and property on the surface as a result of objects falling from aircraft or from the fall of the aircraft itself. While the Warsaw convention, signed at the Second International Conference on Private Aerial Law held at Warsaw in October, 1929, relates to the liability of the carrier where there is a contractual relationship between the passenger or shipper and the carrier, the Rome convention on damages caused by aircraft to third parties on the surface relates to the liability of the carrier to persons with whom he has no contractual relationship. The Rome convention is based upon the principle of absolute but limited liability, with a right, however, to interpose the defense of contributory negligence. The carrier must be insured against damages to persons and property

Caused by Aircraft to Third Parties on the Surface, the ratification of which has been delayed; see *post*.

on the surface or maintain a cash deposit or a bank guaranty to satisfy the payment of claims for such damages.[12]

Conventions Now Being Prepared:

There are two other conventions in course of preparation on which the preliminary work of the International Committee is well advanced. One is known as the Convention for the Unification of Certain Rules relating to Assistance and Salvage of Aircraft or by Aircraft, and the other as the Convention for the Unification of Certain Rules relating to Aerial Collisions. In addition, the International Committee is doing the groundwork on several other important conventions, one of which relates to the legal status of the commander and crew of the aircraft. The proposed salvage and collision conventions were considered at the tenth annual session of the International Committee held at The Hague in September, 1935, at which the United States was represented.[13] This was the first occasion on which American representatives have gone abroad to attend a meeting of the Committee. Copies of the detailed report of the American Delegation at The Hague may be obtained at the Treaty Division of the Department of State so long as there are copies available for distribution.[14]

The salvage draft under discussion at The Hague applied to salvage on land as well as at sea. A serious objection was made

12. The complete text of the convention as adopted and signed at Rome may be found in Treaty Information Bulletin No. 47, August, 1933, p. 27. See *J. Francis McCormick*, "The Rome Convention—Its Constitutionality—Its Purpose—Its Scope," 6 Air Law Review 207.

See also *Antonio Ambrosini*, "Liability for Damages Caused by Aircraft on the Ground: A Proposed International Code," 3 Air Law Review 2; *Van Vechten Veeder*, "The Legal Relations Between Aviation and Admiralty," 2 Air Law Review 29; *Franklin F. Russell*, "Liability of a Flying School for Damage Done by a Student Pilot," 4 Air Law Review 254; *Robert Homburg*, "Compulsory Aviation Insurance," 4 Air Law Review 274; *Hampton D. Ewing*, "The Ground Rule of Torts by Aircraft at the American Law Institute," 5 Air Law Review 323; *Walter Crowdus*, "Aviation Insurance," 2 JOURNAL OF AIR LAW 176; *Kurt J. Kremlick*, "A Survey of Aviation Insurance Law," 2 JOURNAL OF AIR LAW 524; *André Kaftal*, "The Problem of Liability for Damages Caused by Aircraft on the Surface," 2 JOURNAL OF AIR LAW 179, 3 JOURNAL OF AIR LAW 347; *George W. Ball*, "Compulsory Aviation Insurance," 4 JOURNAL OF AIR LAW 52; *George B. Logan*, "The Present Status and Development of Aviation Law," 2 JOURNAL OF AIR LAW 510; *F. H. Bohlen*, "Aviation Under the Common Law," 48 Harvard Law Review 216 (1934).

Article 24 of the Convention for the Unification of Certain Rules Relating to Damages Caused by Aircraft to Third Parties on the Surface, *supra*, provides that the convention shall come into force 90 days after the deposit of the fifth ratification. It has so far been ratified only by Spain and Rumania. No decision has been reached by the Department of State on the question of recommending to the President that the convention be transmitted to the Senate of the United States for its advice and consent to ratification. Pending a study of the insurance provisions of the convention there has been a delay on the part of the signatory powers, generally, in the matter of reaching a decision on the question of ratification.

13. For the complete texts of the draft collision and salvage conventions considered at The Hague in September, 1935, see Treaty Information Bulletin No. 66, March, 1935, pp. 17-25.

14. For a summary of the report of the American Delegation see Treaty Information Bulletin No. 74, November, 1935, p. 11.

to the draft on the ground that it imposed an obligation on a commander of an aircraft to go out of his way to assist another aircraft or a vessel in distress when to do so might seriously endanger the lives of persons on board the rescuing aircraft. The convention also laid down the rules to be applied in the matter of remuneration for salvage services rendered. As a result of the discussion at The Hague, it was decided to have two salvage conventions, one relating to salvage on land and one to salvage at sea.[15] The proposed collision convention, the draft of which was revised at The Hague, sets forth the method for apportioning damages in the event of aerial collisions. These draft conventions will require further consideration by the International Committee before they can be referred to an international conference for final adoption.[16]

During the Hague sessions the International Committee also considered the question of aviation insurance and made certain recommendations on this subject. The ratification of the Convention relating to Damages Caused by Aircraft to Third Parties on the Surface, signed at Rome on May 29, 1933, during the Third International Conference on Private Aerial Law, has been delayed because of difficulties arising with respect to the interpretation of the insurance provisions of the convention. The aviation insurers have contended that the convention should be interpreted to require the issuance of incontestable aviation policies and that they should be allowed certain defenses against the payment of claims for damages caused by aircraft to persons and property on the surface. One of the purposes of the meeting of the International Committee at The Hague was to make recommendations as to the extent to which the aviation insurers should be permitted to interpose defenses against the payment of claims arising under the convention. Some differences over the insurance provisions of the convention arose during the Rome Conference in 1933, and it was decided by the Conference to have the International Committee give further study to the question after the convention was signed[17]

Procedure and Conclusions:

While in theory the International Committee completes its work

15. The text of the draft salvage convention as revised at The Hague in September, 1935, to apply to salvage at sea may be found in Treaty Information Bulletin No. 74, November, 1935, p. 22.

16. The text of the draft collision convention as revised at The Hague in September, 1935, may be found in Treaty Information Bulletin No. 74, November, 1935, p. 26.

17. For the text of the recommendation made by the International Committee at The Hague in September, 1935, on the subject of aviation insurance as related to the Rome convention of May 29, 1933, on liability caused on the surface by aircraft, see Treaty Information Bulletin No. 74, November, 1935, p. 30.

with respect to a particular draft convention after it approves such draft and it is referred for final consideration to a general international conference on private aerial law, it would seem that in practice there is a tendency for the International Committee to continue to maintain an interest in the conventions after they are finally adopted and signed at international conferences. As stated above, the Committee has made a study of the insurance provisions of the Rome Convention Relating to Damages Caused by Aircraft to Third Parties on the Surface. In addition it has taken an interest in the study of possible amendments to the Warsaw Convention relating to the Liability of the Aerial Carrier, signed at the Second International Conference on Private Aerial Law held in Warsaw in 1929.

When it is realized that the International Committee has undertaken to draw up a code of air law analogous in many respects to the great code of maritime law and that the code of maritime law has been built up over a period of several centuries, the magnitude of the task undertaken by the International Committee will be readily understood. The Committee has made great progress during the comparatively short time it has been in existence; but when it is realized that it is attempting to apply to air navigation, a new form of transportation, new principles which will be adaptable to the peculiar needs of this form of transportation, and that a study must be made of the principles underlying other forms of transportation, such as rail, steamship, and motor transportation, in order to see to what extent their basic principles might be applied to air navigation, it will be seen that the Committee must necessarily proceed with caution, as there are comparatively few well-established rules resulting from practical experience to guide it in its labors.

While it will doubtless be desirable to codify private international air law and avoid a tendency to have this branch of the law develop in a sort of haphazard fashion, the Committee should, in my estimation, guard against a hasty adoption of international conventions which might be regarded as premature, that is to say, conventions relating to subjects which are not ripe for codification or dealing with matters on which too little information has been obtained as a result of practical experience to warrant an attempt at codification. This, it is believed, would result in a too-frequent revision of conventions after their adoption and signature at diplomatic conferences.

COMMERCIAL POSSIBILITIES OF THE AIRSHIP*

DR. HUGO ECKENER†

I greatly appreciate the opportunity you are giving me to express to you my opinion concerning the problems of commercial operation of airships. I have always been and still am today of the opinion that the question, "Is it possible to transport passengers, mail and valuable cargo in one-third the time now required, safely and comfortably over the oceans at reasonable cost," is one of the greatest importance and significance for the development of world traffic and for the promotion of modern culture. I have made the answering of this question practically my life's task. I would like to put myself on record now, that I approached the airship problem from the first moment on in a thoroughly objective manner and with a critical mind. I did not come to be the proponent of the airship because I happened to be appointed a Director of the Zeppelin Works. The contrary is the case; I did not declare myself prepared to accept the responsibilities of being a Director of the Zeppelin Company until I had recognized clearly the possibilities of development inherent to the airship. I am anxious to make myself quite clear on this point, because the human being is by nature inclined to be partisan to a cause, to which he has been attached by personal interests, may this cause be, as in this case, the cause of "lighter-than-air" or that of "heavier-than-air."

In this connection I would like to add: Count Ferdinand von Zeppelin, whose life work I have the honor to continue, had the vision of world traffic with airships. He considered the airship an ideal means of communication among the peoples of the world, which was designed and destined to promote friendly cooperation. I have always held to this goal. I have no intention of only pleading for German airships and a service by German airships. On the contrary, I am convinced that such world traffic by airships can only be accomplished by international friendly cooperation—or not at all. It is an important characteristic of airships, travelling over the lands and seas to far distant countries, that they can bring

*Statement made to the Federal Aviation Commission at a hearing on October 29, 1934, published with the permission of the author.

†Of the Luftschiffbau Zeppelin, G. m. b. H., Friedrichshafen, Germany.

about a realization of modern ideals of international cooperation, destined to enrich human life.

To the history of the airship, and especially to the history of the Zeppelin type airship one can, with good reason, apply the word of the Bible: "In the beginning was the word." "Word" in this case means theoretical discussions and clashing opinions. Rarely from the beginning on has so much ink been spilled over a technical invention as there was over the rigid airship. Today we can look back upon thirty-five years of embittered controversy and still there is no peace. During this time, friends and foes, frequently with little expert knowledge but grossly exaggerating, put forth arguments for the good and for the bad. It is for this reason that it appeared to be necessary to replace theoretical arguments by practical demonstration and to say with Goethe's Faust: "In the beginning was the deed."

So we constructed our airship *Graf Zeppelin* for the task of exploring the oceans of the air over the seas and to test the airworthiness of the rigid airship under all weather conditions. The ship has fulfilled this task over a period of six years and, still in excellent condition, is now engaged in a regular service between Europe and South America.

Record of Graf Zeppelin:

I will now give you a short statistic of the performance of the *Graf Zeppelin* to date. So far the ship has completed 415 trips over a total distance of more than 600,000 miles, visiting many countries, landing frequently at fields without mooring facilities. Today the ship has crossed the Atlantic 71 times, made 64 crossings of the South Atlantic, 7 times across the North Atlantic, once over the Pacific, and once across the Arctic Sea, besides a number of trips over the whole of the Mediterranean and the northern ocean. The ship has also cruised over the continents of Asia, Europe and North America. I believe that it is hardly necessary to tell you that the airship on these many voyages covering a distance equal to twenty-five times the circumference of this earth, has very frequently made the acquaintance of bad weather. On long voyages across the ocean, one always somewhere and some time encounters nasty weather of some sort or kind. But I should like to emphasize a matter which is not always properly appreciated: Nearly all—especially, however, every one of the long voyages of the airship—was started at a date and at an hour which

had long previously been scheduled. It was only once that we had to postpone the start of a long voyage by twenty-four hours, due to weather conditions, and in that case only because local wind conditions prevented our taking the ship out of the hangar. All of our trips were started and completed without consideration of general weather conditions. We never waited for days, as it is generally the custom when making long demonstration trips, in order to encounter favorable or advantageous meteorological conditions.

I am of the opinion that the fact that we did make our voyages as stated, is conclusive proof that the airship is capable of coping with all weather conditions. However, I would not like to infer by this statement that an airship is capable of running into all weather formations of any conceivable kind—as for instance the vortex of a hurricane or the center of a typhoon. We all know that there is no vessel which could boast of such ability. Even the most seaworthy, great ocean liners avoid the vortex of a hurricane. What I would like to have understood, however, is that under competent command an airship is able to cope with all weather conditions and all situations, if necessary, in a manner of detouring certain cloud formations. This it will always be able to do, if properly guided. It would go too far to give a complete account, even of the specially noteworthy meteorological adventures, which the airship experienced on her many extended voyages. It might, however, be of interest to you to hear some details concerning some of the specially interesting situations which we encountered.

On the famous "Trip around the World" the airship ran into the area of a typhoon, which had crossed the Japanese sea shortly before the airship reached that point. I by no means tried to give the vortex of the typhoon, which was pulling out to the northeast, as wide a berth as possible. On the contrary, I was concerned that the typhoon might have moved, by the time we arrived, so far away, to make it impossible for us to advantageously exploit the favorable northerly winds prevailing along the rear side of the disturbance. It was for this reason that I set our course running far to the eastward along the coast of the peninsula of Sakhalin, in order to be able to make use of the northerly gales caused by the typhoon. It was extremely gusty under these conditions. We had to run for hours through thick fog and low clouds, but we had the satisfaction of a wonderful north wind blowing at the rate of fifty and sixty miles per hour. This wind brought us in seven hours

from the Okhotsk sea to the northern cape of Hokkaido, the main island of Japan. We had the airship safely under control in this turbulent atmosphere. She rode so smoothly that the passengers slept undisturbed, without even realizing what was going on. The next morning when they started to appear for breakfast at about 6 o'clock, they were much surprised to find that we were just passing the northern-most point of Japan.

In a similar manner, when leaving Japan three days later, we chased a typhoon which had crossed Japan the previous day. We passed this typhoon closely to the south of the area of disturbance, in order to again draw advantage from the force of the westerly winds prevailing on the southern border of the storm. We were thereby able to accomplish the voyage from Tokyo to San Francisco by the aid of this typhoon in only 68 hours.

It would be carrying coals to Newcastle, if I would draw the conclusion before your Commission, from that which has been said so far, or try to bring proof that strong winds or stormy weather constitute no danger for an airship. One knows that storms which are uncomfortable for surface vessels, or even dangerous, only mean a reduction in speed for the airship, if the airship is flying against the wind, and on the other hand, that they mean an increase in speed, if the airship is running with the wind. This is the *only* effect of a storm, at least over the ocean where the disturbance of the atmosphere is small. In a storm over land, air movements following the contours of the ground of course carry with them great turbulences of the atmosphere, which cause the airship to pitch more or less heavily. The effect is comparable to the action of a surface vessel in a high swell.

Storm Areas Near America:

On the very first trip of the *Graf Zeppelin* from New York to Europe, during the end of October of 1928, we ran into a heavy fog over the banks of Newfoundland, which made it impossible for us to check our course for a number of hours. During these hours a heavy south-south-easterly storm came up, which we did not realize until after we were driven off our course northward over the steep cliffs of Newfoundland. Over these cliffs, the airship started to roll and pitch. I immediately reduced our engines to half-speed to prevent any damage to our rudders. It was then apparent that over the fog we had run into a storm with wind velocities of 60 miles per hour plus. For four hours this storm had driven us off our course by a distance of 250 miles. After

further four hours we ran out of the storm area, and were in a position to complete our voyage from Lakehurst, N. J., to the coast of France, in spite of the unfavorable direction of the prevailing winds in the storm area over Newfoundland, in an elapsed time of 62 hours.

I would only like to add briefly at this point that we encountered many similar storm conditions on our many voyages. For instance, on a trip home from South America, we encountered in the vicinity of Madeira a storm with a direction across our course with wind velocities of 55 to 60 miles an hour, which we had to run through. In the Straits of Gibraltar we once ran for three hours against a heavy wind without gaining any headway at all. On another occasion, at the same place, we had a storm with favorable winds which increased our speed over the sea to better than 120 miles per hour. At the Cape Verde Islands, we once passed a storm, the continuation of which could be readily traced to the formation of a hurricane in the Caribbean Sea. These are all occurrences which have gradually become to be commonplace with us. The situations which are disagreeable and under certain conditions dangerous to the airman, may he be aboard an airship *or* an airplane, are as I have already stated, not the movement of air masses, which the layman calls storm, but the heavy squalls of all sorts—may they be rain or thunder squalls. These squalls are accompanied by violent vertical air movements. The problem which was to be solved on the voyages of the Zeppelin was therefore only this one: Is the airship able to cope with such squall conditions?

My experience to date gives me the right to answer this question in the affirmative, at least—to express myself cautiously and conscientiously—for voyages across the oceans and open country. In narrow valleys, over mountainous regions, operations under adverse weather conditions may be more difficult. It is only natural that we have, innumerable times, been forced to pass through heavy line squalls. We encounter such squalls at least once on every long voyage. Amongst these experiences, there have been some which were especially interesting and of a conclusive nature, and I should like to say a few words about these experiences, which will undoubtedly be of interest to you.

Early in June, 1930, on our trip from Rio de Janeiro to Lakehurst we found ourselves off the renowned Cape Hatteras. Between us and the American coast there was a line squall. We had to break through this squall line to reach the coast. On the east

side of the line we proceeded north with a south wind of from 25 to 30 miles per hour velocity, with heavy rain and a temperature of 24 degrees centigrade. We then broke through the squall line, and within three to four minutes we were on the reverse side of this weather formation, where we encountered a north-north-east wind with a velocity of 65 to 70 miles per hour, which diminished to 45 to 50 miles an hour a few minutes later. At the same time the temperature dropped in these three minutes by 12 degrees centigrade. Any expert in meteorological matters will be able, without difficulty, to visualize the immensely turbulent condition of the atmosphere in a cloud formation of this type. Just as the seas were running cross, broken in a crazy fashion, so the different air currents were whirling around above. We had reduced our engines to half-speed to prevent excessive strain on the ship. We passed through this atmosphere, the wildest I have ever experienced, without the slightest damage. In the beginning the airship was driven up perhaps 350 to 700 feet, but then again it was in perfect control.

There is a point of general interest, which I should also like to mention at this occasion; an airship approaching a squall line at an altitude of from 800 to 1000 feet, according to my experience, will always be carried up, never down. I have, therefore, never felt a danger that the airship in turbulent air conditions might be thrown down upon the ocean when cruising over the sea. It is only when cruising at greater altitudes of more than 1500 feet, passing through a line squall, that the ship may be carried down under certain conditions. But these downward movements of air gradually take a horizontal motion at an altitude of perhaps 1000 feet. Of course, conditions are somewhat different close to steep coast formations and at the foot of steep mountains.

Furthermore, in general it must be emphasized that a continuous squall line of great expansion never exists. There are always interruptions—gaps—in such squall lines, through which one can pass without trouble, if it is considered advisable to do so, or if one is hesitant to run through a squall line on a straight course. We do this generally, if for no other reason but to avoid stressing the ship unnecessarily and also to avoid heavy rain.

This year, on our trip to Buenos Aires, which we made in June, we had to pass through a very ugly looking squall line during the night, which had been formed by a Pampero coming up from the south. It was approximately at the latitude of Porto Alegre. I had always wished to encounter a weather situation of

the Pampero type, in order to make its acquaintance in the air. Now my wish was being fulfilled on the first voyage we extended beyond Rio de Janeiro to the Argentine. As a precautionary measure I left the coast and went to sea about 50 miles, where the sudden change of the weather would express itself less violently as it would closely to, or over the overheated land. Riding with a north wind of 21 degrees centigrade, we ran within a space of time of one-half an hour into a south wind, with a temperature of only 6 degrees centigrade. You can see that the change was a very sudden one. The thunder squall and wind gust formations were particularly intensive. In spite of the complete darkness of the night, we had no difficulty in guiding the ship safely through a gap in the heavy squall line. The great mobility and speed of air craft make it possible to overcome such difficulties easily.

Regular Passenger Service:

As you know, I was able, after a number of years of thorough testing of the airship on the trips referred to above, to decide to inaugurate a regular passenger and mail service to South America with our *Graf Zeppelin.* At present the airship is finishing its thirty-second round-trip to Brazil. Frequently I have heard the opinion expressed that these trips to South America are relatively easily and safely accomplished, because of the comparatively favorable weather conditions encountered on the southern route. I would like to venture the opinion that this point of view is definitely in error. For it is not at all, as we have already ascertained, the so-called storms which are dreaded by the airman. Such storms are admittedly more frequent on the North Atlantic, but on the route to South America, one has much more frequently and nearly always to pass through gusty squall lines and thunder storms—not to mention the extremely violent tropical rains. Along the northern and southern limits of the trade winds and the doldrums, we nearly always encounter expanded squall lines. One also encounters, I may say, on every second trip, excessively squally weather between Pernambuco and Rio de Janiero, caused by the cold air, which breaks in from the south. It is definitely certain that these meteorological conditions are not less unfavorable than the frequently stormy atmospheric conditions encountered over the North Atlantic.

When we decided to begin our regular scheduled service to South America, we did not do this in consideration of the supposedly more favorable weather conditions on this route, but only

because we had no airship terminal with a hangar at our disposal in North America. The relatively favorable meteorological conditions in the neighborhood of Pernambuco made it possible for us to get along at that point, for the purpose of refueling, with a simple mooring mast. I would have preferred, of course, to start a regular service to North America, if it were possible to get along here with a similarly simple installation. However, the very uncertain meteorological situation on the east coast of the United States makes this impossible. On this side we absolutely must have a base with a hangar, in order to be able to refuel safely and under shelter. At present it is my endeavor to ascertain if it would not be possible to find in the United States a suitable base and starting point, from which it will be possible to ultimately undertake regular trips to Europe.

Gentlemen, you will believe me if I express the firm conviction, after our careful study and the experience we have gained so far, that an airship service over the North Atlantic can be operated with the same safety and regularity as the service we have now been operating for a period of four years to South America. If, in spite of this statement, I am of the opinion and wish to propose that one should at first install an airship service between Europe and the United States as an experimental and demonstration service, I have reached this conclusion because in my opinion only practical operations and not theoretical considerations, based on the study of meteorological statistics, can give us a clear and defined picture of the manner in which such trips can be accomplished. The results of such a demonstration service will give us a basis for a definite schedule.

It is essential that the little known area between the Azores and the northern steamer routes, which is only infrequently traversed by ocean liners, be explored meteorologically by actual voyages. Such actual practice will teach us the methods of reaching the shortest running times. In a similar manner we had to gather experience on the South American route. In the beginning we were of the opinion that by the conditions created through the trade winds, we could accomplish our southward voyage to Pernambuco in 72 hours and our return trip in 96 hours. We had used these running times as the basis for our schedule. Actually, during the first and also partly during the second year, we needed these running times. However, today we have progressed so far, that we can accomplish the outward bound voyage in an average elapsed time of 68 hours, and the return voyage in 83 hours, instead

of the 96 hours previously considered necessary. In my opinion, we will have similar results in a North Atlantic service, after we have been able to gather more experience on this run. I am certain that after a short while we will be able to accomplish the eastbound voyage from coast to coast in an average time of 45 hours, and the westbound voyage from coast to coast in an average time of about 55 hours.

Demonstration Service Proposed:

Gentlemen, this outlook appears to me to represent such tremendous progress over the times now required for the crossing of the North Atlantic, and is so promising and alluring, that under every circumstance a demonstration service should be brought about with a minimum of delay. I am absolutely convinced that the impression and the success of the intended demonstration trips on your people will not be less convincing than the great impression created by our South American service on the peoples of Brazil and Europe. As you probably have already heard, the Brazilian Government, under the impression of this regular service to South America, has rendered the decision to construct at the Government's expense for the Luftschiffbau Zeppelin a hangar and terminal in Rio de Janeiro. The hangar is already under construction and will be available for service during the late summer of 1935. We shall then be in a position to make our voyages from Friedrichshafen to Rio de Janeiro in from 80 to 84 hours, without an intermediary landing in Pernambuco. This time compares with 12 days for the fastest steamers now in the South American service. Likewise, the Spanish Government has decided to erect a mooring mast in Seville. In due course, it is planned to complete this terminal by the addition of an airship hangar.

The airship *Graf Zeppelin* on its trips to South America is enjoying an ever increasing popularity; the increased confidence of the public is proven by the fact that on our voyages to South America this year, the accommodations are constantly sold out, whereas in the beginning of our service only a few paying passengers could be found. All passengers, without exception, praise the comfort of the accommodations, the smooth and agreeable operation of the airship, the food and the service. The following fact will be of special interest, namely, that in our South American service we have already been able to acquire a number of "steady" guests. These passengers are mostly such men and women who cannot spare the time of six to seven weeks for a business trip on

steamers plying between South America and Europe. With the airship they can complete the round trip within three weeks, including a stop-over of two weeks in Brazil or in Europe.

I would like to emphasize this fact especially, because frequently concern is expressed that the airship would be an undesirable competitor to the steamship. Of course, this is the case under certain conditions, but the airship creates its own class of passengers and many a passenger chooses to go or return by steamer, thus creating an increase in traffic also for the steamship lines. Every new and better form of transportation creates additional traffic and thereby benefits all. I think that this fact and this experience can also be used to defeat such criticism which states that airship traffic will mean a hindrance to the development of airplane traffic. In our South American service we work in friendly cooperation with the German Lufthansa. Experience has taught that the airship brings many a passenger and many a sack of mail to the airplane, which it would otherwise not have received. The mail from all over Germany and many neighboring countries, as well as all Brazilian mail and mail of the neighboring countries, are brought to the point of departure of the airship by airplane. Many a passenger comes to Friedrichshafen or Rio de Janeiro by airplane to board the *Graf Zeppelin.* These are the facts as they stand at present, and this is how they will remain for a long time to come.

I am, of course, aware of the opinion expressed by many critics of airships that in the very near future the airplane will be able to take over the mail, and probably also the passenger service across the oceans. In the opinion of these critics it would, therefore, be useless to construct expensive airships and airship terminals, which would be obsolete in a short period of time. I have been hearing this tune for the last thirty years. It has always been said: "In *two* years we will do the same with the airplane much more cheaply and much faster." In spite of this, the airship has succeeded in remaining alive. Today it has inherent possibilities of development, after having been neglected only too long—possibilities of development which perhaps, relatively speaking, are still greater than the possibilities of further improving the already highly developed modern airplane. It is for this reason that the old tune has changed lately a bit. I hear now frequently: "In *five* or *six* years we shall be as far as the airship is today in regard to long distance transportation."

Airplane vs. Airship:

It is beyond me to disclaim the possibilities of further airplane development. On the contrary, I will be happy with each step forward, enabling improvement of service. But I must confess that I am unable to recognize at present a solid basis for the propounded hopes in this direction. To make one's calculations on the basis of an undefined and vague hope toward a certain development, is about the same as figuring with miracles. It may interest you to know that until recently the Zeppelin Concern constructed airplanes in a subsidiary, the Dornier airplane plant. On the other hand, the airship, which is now able to render transoceanic service, is already here, and it is only necessary to take hold! Why does one hesitate? In my opinion one should hesitate the less, since it is not at all certain that the airship will have finished its usefulness at the moment at which the airplane will also be in a position to transport a commercial load of passengers, mail and freight across the oceans. It is generally admitted that the airship offers a considerably more agreeable and more comfortable form of transportation for passengers, and I am also of the opinion that, viewed from a purely commercial standpoint, an airship will have greater chances on long distances than an airplane service. Concerning the latter point I intend to say more later on.

We have with the *Graf Zeppelin,* as is already generally known, carried through during the last four years, a regular service between Germany and Rio de Janeiro. May I be permitted to say a few words concerning this service? To date we have completed thirty-two scheduled trips. At present the airship is on its thirty-third voyage. Regularly, or every fourteen days the airship starts at 9 P. M. Saturdays, arrives in Pernambuco on Tuesday afternoon at 5 o'clock. After refueling, which at present is only possible in Recife de Pernambuco, she leaves again on Wednesday morning at 7 o'clock, lands in Rio de Janeiro on Thursday morning at seven, and after a half hour's stop, returns again to Pernambuco, where the ship lands again on Friday morning. The same Friday evening the ship starts again for Friedrichshafen and there lands on the following Tuesday morning. This schedule is being executed so punctually and so regularly, that the Brazilians say jokingly: "We Brazilians are now setting our clocks by the arrivals and the departure of the airship."

Unfortunately, at present it is only possible to conduct this service during the summer season, because there is no terminal where the airship can be housed except in Friedrichshafen. We

base our operations on the mooring mast station at Recife de Pernambuco, at which we at present have the only station in South America where we can refuel. The airship is therefore forced to operate under the most unfavorable conditions. I should like to compare these conditions with the operation of a surface vessel, which would be forced to take on coal off the open coast, where it would also have to load and discharge its cargo.

Due to the unfavorable meteorological conditions of southern Germany during the winter time, especially because of the very dense fogs and low clouds experienced there during the winter season, our regular trips are only possible during the more favorable seasons, as long as the terminal and hangar in Rio de Janeiro now under construction does not offer us the opportunity to base operations there during the winter months. The favorable impression on the public, made by the service operating under the indicated technically primitive conditions, is being realized in a constant increase in the use of the airship for mail and by passengers. For a considerable period of time the airship has constantly been sold out, as stated already and lately we have to leave many a passenger behind. Nearly all of the first class mail between Brazil and Germany now travels by airship; this I am told by experts on Brazilians conditions. On each trip we carry a nearly constant quantity of mail, amounting to from 40,000 to 50,000 letters.

This encouraging result has led to a growing interest of other countries in the possibilities of airship service. As is probably known, we have been in contact for quite some time with a Dutch group, which is backed primarily by the Dutch steamship companies. A program for an airship service between Holland and Batavia is now under serious consideration.

Trans-Atlantic Service:

The Dutch group, in cooperation with our Luftschiffbau Zeppelin has also sought and found contact with an interested American group, and the plan has been proposed to organize a combined German-American-Dutch operating company, which would operate in friendly cooperation two main lines, namely: One line from Friedrichshafen to South America, and the other line from the United States to Batavia. These lines would cross at some point in southern France or northern Spain. Thus the possibility would present itself to organize connecting lines to Germany and Batavia, as well as to Rio de Janeiro and the United States. On a voyage

of investigation which I made to Batavia some time ago, I studied the meteorological conditions on this route. As a result I have reached the conclusion that approximately the following running time could be safely predicted for these various routes.

From the intersection point in Southern Europe of the two aforementioned lines to Rio de Janeiro—70 to 80 hours; from Southern Europe to Batavia—approximately 105 hours; from Southern Europe to North America—55 hours.

In the other direction, from North America to Southern Europe—45 hours. This would mean that the following times of transit could be accomplished from North America:

To southern Europe roughly two days;
to Batavia approximately six and a half days, and
to Rio de Janeiro via Southern Europe about five days.

A further improvement on these times of transit, as already stated above, is not impossible but on the contrary, very probable, as soon as we will have studied these routes more thoroughly, and naturally also as soon as we will have increased the cruising speed of the airships, which is possible.

Airship Economics:

Concerning the economical and commercial aspects of an airship service, it may be interesting for you to hear a few words. I can base my statements in this connection on practical experience. However, in discussing this angle, the fact must be kept in mind that at present our South American service is based on technical installations of a rather primitive—I should like to say, expeditionary—nature. Further, it must also be considered that the airship *Graf Zeppelin* was not designed for the South American service. She is too small for this service and, therefore, does not have sufficient carrying capacity.

In the manner in which our service is now organized, and after further improvements in the ground organization will have been accomplished, which are now under way, one trip of the *Graf Zeppelin* to Rio de Janeiro costs, all inclusive, which means amortization, insurance and other charges included, approximately Rm. 80,000. This cost is based on ten round-trips during the summer season, as they are now being carried out. These costs will naturally be materially reduced as soon as we will be able to increase the number of our trips to 15 or 20 voyages per year. According to this figure, the operating cost of the *Graf Zeppelin*

on the route from Friedrichshafen to Rio de Janeiro, a distance of approximately 6,500 miles, amounts to Rm. 12.50 per statute mile. It is, of course, not readily possible to quote you these costs in dollars, since the purchasing power of the dollar within the United States is not the same as the value of the dollar expressed in foreign exchange, but I believe that it is safe for me to say that, expressed in terms of American conditions, every mile that we fly with the *Graf Zeppelin* costs us approximately $3.50.

Our revenues from our trips from and to South America are as follows:

For the transportation of mail.....	Rm. 35,000
20 passenger fares.....	Rm. 30,000
For express and excess baggage.....	Rm. 5,000
Or a total per voyage of.....	Rm. 70,000

From these figures you will recognize that the *Graf Zeppelin,* when completely booked, already now nearly covers its operating cost, in spite of the fact that at present we are only able to make ten round-trips per year, because our hangar in Rio de Janeiro is not as yet completed. It is obvious that the operation of only one airship has a most unfavorable influence on our over-all costs. We have therefore planned to eventually place in the South American service a ship with greater performance ability, probably the LZ-129, now nearing completion in Friedrichshafen. This ship will have accommodations for 50 passengers and furthermore will be able to carry besides, a load of mail and freight, amounting to from 45,000 to 60,000 lbs., depending upon the season of the year. Of course, the cost of operating this new ship will be considerably higher. Under otherwise equal conditions, I estimate the cost of a single voyage between Friedrichshafen and Rio de Janeiro at approximately Rm. 125,000. But the possibilities of revenue in turn are doubled, so that good rentability of the service may be conservatively anticipated.

In general I would like to add in connection with this point: the most economical operation of an airship on a given route is with a pay load which equals the weight of the fuel to be used on the voyage. For this relation of the pay load to fuel load results in the best figures of tons of pay load per mile. It is, of course, at any time possible to construct airships of this theoretically best size, because the ability to carry pay load increases relatively with the increase in size. With airplanes, as you know, the contrary is

the case, so that with airplanes, at least for the time being, the size seems limited.

To my remarks so far I would only like to add one thing. It is quite clear that the cost of the construction of airships, and therewith the cost of their operation in any service, will decrease in the future materially, because of one reason alone: namely, to date one has never been able to build airships of a certain type in any numbers. It has always been one, at the maximum two ships of one new type, which has been developed and constructed.

I do not believe it to be promising too much if I say that, provided we construct airships in a certain number of a definite type, the price at which such airships will be built, will be one-third or one-half less than present costs. Further, I have to add in connection with the costs and figures referred to above, that these costs are based on airships filled with hydrogen. Probably one will decide to consider for the service with North America helium filled airships, because this will further increase the reliability of operation, and because helium in sufficient quantities is available in this country now at reasonable prices. It is therefore imperative that in a future combined service of domestic and foreign airships, helium be made available to all companies who will participate in this service. It would seem to me desirable and advantageous to change the existing regulations concerning helium to provide for this contingency. The operating cost will probably increase 15 to 20% by the use of helium, because ships filled with helium will have to be somewhat larger to give the same performance.

Demonstration Service:

However, concerning the demonstration service suggested by me, I would like to add another remark. This demonstration service shall serve the purpose of further clarifying the problem involved, but it would also present an excellent opportunity to train sufficient personnel. I would first of all be prepared to train American personnel for the North Atlantic line, and give these men every opportunity to acquire the necessary experience in the especially interesting and—according to the opinion of many—especially malicious atmosphere of the North Atlantic. For only on the basis of sufficient experience in the air over the different oceans and countries, it is in my opinion possible to establish safe air service. At present we are engaged in gathering such experience, and the situation today is perhaps comparable to the situation of seafarers concerning operations in the neighborhood of danger-

ous and foggy coasts and treacherous currents, and in areas where hurricanes, pamperos and typhoons are frequent. Innumerable years were necessary to acquire sufficient experience to develop safe operating practice for sea going vessels navigating such waters. The scientific methods of today and the means of communication now at our disposal, make it much more easy for the airship men to build up on the basis of existing practice, exploiting all possibilities and available experience.

It is for this reason that I always considered it wise, in spite of the danger undoubtedly connected therewith, to permit all of my older and experienced collaborators and members of the crew, to participate in all of our long and interesting voyages. I do that, in order to train a staff of experts, and to give them every opportunity to constantly increase and enlarge upon their knowledge and experience in these matters. There are, without doubt, certain similarities, especially from a navigational standpoint, between the operation of surface vessels and airships, but after all the operation of airships definitely demands years of specialized training.

Conclusions:

In conclusion please permit me to re-capitulate in a few sentences what I was anxious to convey to you:

(1) The extended voyages of the *Graf Zeppelin* prove, in my opinion without a shadow of a doubt, the practicability of airships for commercial service.

(2) It is for this reason that an airship service between the United States and Europe should be inaugurated with a minimum of delay, particularly in consideration of the immense significance and importance of this busy traffic line across the Atlantic.

(3) In order to clarify the problems involved in such a service, insofar as this may yet be necessary, we should begin as early as possible with demonstration voyages. During the organization of this demonstration service we should already now give due consideration to the cooperation between the countries involved. For an airship service extending over countries and oceans can only be developed in a spirit of friendly understanding between the peoples concerned.

Our Company, the Luftschiffbau Zeppelin, will always be guided by these views, gratefully remembering the fact that the first great pioneering voyages of the *Graf Zeppelin* were only possible through the friendly cooperation of the United States Government and its Navy, Commerce and Post Office Departments.

EDITORIALS

LINTHICUM FOUNDATION PRIZE FOR 1937

The Faculty of Law of Northwestern University administering the income of *The Charles Clarence Linthicum Foundation*[1] announces that:

> The sum of one thousand dollars and a bronze medal, as a first prize, and not more than five sums of one hundred dollars each, as second prizes with honorable mention, will be awarded to the authors of the best monographs submitted by March 1, 1937, on the following subject:[2]
>
> **Carrier Liability in National and International Air Commerce**
>
> (including liability to passengers, shippers, and others for personal injuries and property damage)

The conditions of award are as follows:

1. The award will be made by vote of the Faculty of Law,

1. Charles C. Linthicum (1857-1916), a graduate of this school in 1882, president of the Patent Law Association of Chicago in 1899, and counsel in patent law for the United States Steel Corporation, was for twenty years lecturer on Patent Law in this School. The Charles C. Linthicum Foundation, given in his honor and established by Harvey S. Firestone and other friends, is applicable to the general purpose of cultivating research, study, and instruction in the fields of the law of patents, trade-marks, copyright, or other topics of the law involving the development of trade, industry, and commerce; and specifically by means of the delivery of lectures or other form of instruction; the publication of meritorious essays, monographs, or books; the aid of research or preparation for publication; the award of prizes to meritorious essays, monographs, or books, **already written or published**; etc.

2. In 1935 the subject was, "A Survey of the Principal National Patent Systems, from the Historical and Comparative Points of View." The first prize was awarded to JAN VOJACEK, vice-president of the Association of Czechoslovakian Patent Attorneys and delegate of the Czechoslovakian Government to the London 1934 International Conference on Industrial Property. A second prize with special honorable mention was awarded to KARL B. LUTZ, member of the New York Bar, in the firm of Ramsey, Kent, Chisholm and Lutz, in New York City; and second prizes with honorable mention were awarded to GEORGE VON GEHR, member of the Illinois Bar and registered patent attorney, in the firm of Langner, Perry, Card, and Langner, in Chicago; to MARIO GHIRON, member of the Bar of Rome, Italy, and professor in the University of Rome; and to EDWIN M. THOMAS, member of the District of Columbia Bar and Assistant Examiner of Patents in the United States Patent Office.

In 1933 the subject was "Negotiable Instruments in Their International Relations," but no award was made.

In 1932 the subject was "A Comprehensive Critique of the International Chamber of Commerce (U. S. A. Section) Committee's Draft Convention for the International Protection of Industrial Property." The first prize was awarded to LESLIE BARTLETT DAVIES, of Melbourne, president of the Australian Institute of Patent Attorneys, with ARTHUR DEAN of the same Institute, and second prizes with honorable mention to J. M. BLISS, of Surrey, member of the Honorable Society of Lincoln's Inn, to STEPHEN P. LADAS, member of the New York Bar, and to MARCEL PLAISANT, Senator, and member of the Paris Bar.

In 1930, the subject was "A Complete Program for the Improvement of the United States Patent Law System," and the prize was awarded to RICHARD SPENCER, of the Chicago Bar, now First Assistant Commissioner of Patents,

after scrutiny of the best works offered; and the Faculty may delegate the preliminary selection to other persons.

2. To be eligible for the award the author must be at the date of submission a member of the bar or of a faculty of law, or a student registered in a recognized law school, or a patent agent or attorney, or a member of a government staff, in any country. It is permissible for two or more persons to collaborate in the preparation of a monograph, it being understood, however, that no monograph will receive more than one prize award.

3. The manuscript must be received by March 1, 1937.

4. The Faculty reserves the right to make no awards, if in its judgment no work submitted is of sufficient merit. The first prize award will not be divided.

5. The copyright of the work receiving the first prize will remain in the author, but the Faculty will endeavor to arrange for its publication; when published, its title page must mention the award of the prize of the Charles C. Linthicum Foundation of Northwestern University.

6. The work submitted may be one already in print at the time of submission. Manuscripts submitted must be typewritten on paper of size of legal cap or typewriter or commercial note, and in the English language. A manuscript in the French, German, Italian or Spanish language may be accepted in the Faculty's discretion by special vote, but the expense of translating for publication (if awarded the first prize) will be deducted from the sum awarded.

7. The Faculty is not responsible for loss or injury of manuscripts submitted, but will endeavor to give them safe custody. They will be returned on request if return postage is supplied.

8. Each work submitted should be identified only by a Latin word or other short phrase typed on the title page or first page and on the enclosing envelope. It should be forwarded in another envelope containing also (2) the letter of submission, signed only by the identifying word or phrase, (3) a third sealed envelope bearing outside the identifying word or phrase and containing a

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Washington, D. C.; also a second prize with honorable mention to JOHN F. ROBB, of the Cleveland Bar. The monograph was published in 1931 (Callaghan, Chicago) under the title "The United States Patent Law System."

In 1929, the subject was "Scientific Property." The first prize was awarded to CHARLES JOHN HAMSON, of London, England, member of the Honorable Society of Gray's Inn; and second prizes with honorable mention to L. B. DAVIES, of Melbourne, Australia, registered patent attorney, and to FRANCOIS POIGNON, of Montbard, France, graduate student at the University of Lille. The monograph was published in 1930, under the title "Patent Rights for Scientific Discoveries" (Bobbs-Merrill, Indianapolis).

In 1927, the subject was "The Law of Radio-Communication," and the prize was awarded to STEPHEN DAVIS, of the New York Bar. The monograph was published in 1927 under the above title (McGraw, New York).

paper giving the true name and address of the author and the fact making him eligible under paragraph 2 above.

9. To verify arrival of the work the author should forward it by registered mail with return receipt.

10. Address: The Linthicum Foundation, Northwestern University Law School, McKinlock Campus, 357 East Chicago Avenue, Chicago, Illinois.

AVIATION COMMITTEES IN CONGRESS

The desirability of having a standing committee on civil aviation in each of the Houses of Congress has been apparent for some time. The National Association of State Aviation Officials made the matter the subject of a special resolution at its Fifth Annual Meeting in Detroit, September 28, 1935. The resolution read as follows:

> WHEREAS, The United States Senate has seen fit to appoint a subcommittee of the Committee on Commerce to study all phases of civil aviation, and
>
> WHEREAS, The existence of such a committee both in the United States Senate and in the House of Representatives, which has a thorough knowledge of aviation or can acquire such a knowledge by experience, has long been felt to be desirable,
>
> THEREFORE BE IT RESOLVED by this Association that we urge upon the Vice-President as the presiding officer of the Senate, and upon the Speaker of the House of Representatives, the creation in each of these bodies of a Committee on Civil Aviation to which committees shall be referred all measures introduced into these respective houses concerning civil aviation.

It is understood that Senator Harry Byrd, of Virginia, now has a resolution (S. R. No. 118) on the calendar which would amend Senate Rule No. 25 by providing for the addition of a "Committee on Air Commerce and Civil Aviation" with a proposed membership of twelve senators. Favorable action on this resolution and a similar one in the House would prove to be of very great value to all aviation interests.

STATE REGULATION

DIGEST OF STATE AERONAUTICAL LEGISLATION

A digest of state aeronautical legislation has been recently completed by the editor, in his capacity as Legal Counsel for the United States Senate Subcommittee on Aircraft Investigation and, if the permission of the subcommittee can be obtained, it is expected that the digest will be printed as a revision of Aeronautics Bulletin No. 18—the last number of which was issued in 1929. Publication by the Bureau will enable all those interested in the subject matter to obtain copies free of charge or for a modest sum. Further, the legal staff of the Bureau should be able to keep the bulletin up to date in the future, with a minimum of difficulty.

To indicate the trends relative to the setting up of state aviation promotional and regulatory bodies and the requirements for aircraft and pilot licenses, two charts from the digest are reproduced on the following pages. The increase in special aviation bodies is of interest, as is the progress of the requirement of federal licenses.

Relative to aviation personnel, the National Association of State Aviation Officials has prepared a recent bulletin giving a rather full list of persons connected officially with aeronautics in the various states.

Types of State Aviation Promotional and Regulatory Bodies

State	Aviation Body	Utilities Com.	Highway Dept.	Public Works	Sec'y of State	Adjutant Gen'l	Motor Vehicles	Dept. of Revenue	No Body	Title of Body
1. Alabama	X									State Aviation Commission
2. Arizona		L[1]								Arizona Corporation Commission
3. Arkansas									X	
4. California									X	
5. Colorado		L								Public Utilities Commission
6. Connecticut	X									Commissioner of Aeronautics
7. Delaware									X	
8. Florida			L							State Road Department
9. Georgia									X	
10. Idaho				X						Department of Public Works
11. Illinois	X									Illinois Aeronautics Commission
12. Indiana									X	
13. Iowa	X									Iowa Aeronautics Commission
14. Kansas									X	
15. Kentucky						X				The Adjutant General
16. Louisiana			X							Louisiana Highway Commission
17. Maine					X					The Secretary of State
18. Maryland	X									Maryland Aviation Commission
19. Massachusetts							X			Registrar of Motor Vehicles
20. Michigan	X									Michigan Board Aeronautics
21. Minnesota	X									Minnesota Aeronautics Commission
22. Mississippi									X	
23. Missouri									X	
24. Montana	L									Commissioner of Aeronautics (No law)
25. Nebraska	X									Nebraska Aeronautics Commission
26. Nevada		L								Public Service Commission
27. New Hampshire		X								Public Service Commission
28. New Jersey	X									State Department of Aviation
29. New Mexico		X								State Corporation Commission
30. New York	L									New York Aviation Commission
31. North Carolina									X	
32. North Dakota		X								Board of Railroad Commissions
33. Ohio	X									State Bureau of Aeronautics
34. Oklahoma			X							State Highway Commission
35. Oregon	X									State Board of Aeronautics
36. Pennsylvania								X		Department of Revenue
37. Rhode Island				X						Department of Public Works
38. South Carolina	X									South Carolina Aeronautics Commission
39. South Dakota	X	X								South Dakota Aeronautics Commission
40. Tennessee	X									State Aeronautics Commission
41. Texas									X	
42. Utah									X	
43. Vermont							X			Commissioner of Motor Vehicles
44. Virginia		X								State Corporation Commission
45. Washington									X	
46. West Virginia	X									West Virginia Board of Aeronautics
47. Wisconsin									X	
48. Wyoming									X	
TOTALS	17	7	3	2	1	1	2	1	14	34 states have some type of aviation body

[1] L—Limited Jurisdiction.

Aircraft and Pilot License Requirements

State	Federal License				Federal or State		State			Comment
	For all aircraft	*For all pilots*	*Commercial aircraft*	*Commercial pilots*	*For all aircraft*	*For all pilots*	*For all aircraft*	*For all pilots*	*No law*	
1. Alabama	X	X								Both state and federal licenses required
2. Arizona	X	X								
3. Arkansas									X	
4. California	X	X								
5. Colorado			X							This regulation may be obsolete
6. Connecticut							X	X		
7. Delaware	X	X								
8. Florida	X	X								
9. Georgia	X	X								
10. Idaho	X	X					X			State and federal licenses required
11. Illinois	X	X								
12. Indiana	X	X								
13. Iowa	X			X						
14. Kansas		X	X							
15. Kentucky	X	X								
16. Louisiana	X	X								
17. Maine					X	X				
18. Maryland					X	X				
19. Massachusetts	X	X								
20. Michigan		X	X							
21. Minnesota					X	X				
22. Mississippi	X	X								
23. Missouri			X	X						
24. Montana	X	X								
25. Nebraska		X								No aircraft licenses required by statute
26. Nevada										Federal license for common carriers only
27. New Hampshire					X	X				
28. New Jersey	X	X								
29. New Mexico	X	X								
30. New York	X			X						
31. North Carolina			X	X						
32. North Dakota					C[1]	X				Aircraft license or commercial aircraft only
33. Ohio	X	X								
34. Oklahoma	X	X								
35. Oregon			X			X				
36. Pennsylvania	X	X								
37. Rhode Island	X	X								
38. South Carolina	X	X								Commercial aircraft exempt for 1 year
39. South Dakota										
40. Tennessee	X	X								
41. Texas	X	X								
42. Utah	X	X								
43. Vermont	X	X								
44. Virginia	X	X					X	X		State and federal licenses required
45. Washington	X	X								
46. West Virginia	X	X								
47. Wisconsin	X	X								
48. Wyoming	X	X								
TOTALS	33	34	6	4	5	6	4	3	1	

[1] C—For commercial aircraft only.

N.A.S.A.O.—BUREAU OF AIR COMMERCE CONFERENCE

N. A. S. A. O. members representing fifteen or sixteen states met with Col. J. Monroe Johnson, Assistant Secretary of Commerce, and the executive personnel of the Bureau of Air Commerce on Tuesday, January 21st. with resulting assurances of increased cooperation between both groups looking toward the increased development of aviation in the future.

The N. A. S. A. O. emphasized the need of agreement on the fundamental program of state and federal promotional and regulatory matters pertaining to aviation and presented some twelve propositions to the Bureau of Air Commerce which might form the basis of a joint working program. The proposal of the National Association was as follows:[1]

The Federal Bureau of Air Commerce and the National Association of State Aviation Officials believe:

1. That, in addition to the work of the federal Bureau of Air Commerce, there is a distinct place for aeronautical promotional and regulatory work on the part of the several states.

2. That full cooperation between the federal and state aeronautical agencies is a first requisite to the sound promotion and regulation of aviation.

3. That both existing federal and state aeronautical agencies should take an active part in bringing about the enactment, in all states, of substantially uniform state aeronautical legislation as embodied in the Uniform Aeronautical Regulatory Act and the Uniform Airports Act already endorsed by the National Association of State Aviation Officials, the National Conference of Commissioners on Uniform State Laws, and the American Bar Association. That is, that the Bureau of Air Commerce, as well as the National Association of State Aviation Officials, should take an active part in bringing to the attention of the proper state authorities the desirability of enacting these two uniform state acts.

4. That, in the future and within a reasonable time before the issuance of any federal regulations (except emergency regulations), a proposed draft of same be submitted to the National Association of State Aviation Officials for its consideration, it being understood that the National Association will in turn sponsor no state legislation or regulation without submitting the same, within a reasonable time before its adoption, to the federal Bureau of Air Commerce.

5. The National Association of State Aviation Officials also desires to make the following additional specific suggestions relative to federal regulation:

(a) That the federal inspection and licensing services of the Bureau be improved by the addition of personnel, to include:

(1) The allocation, to each inspection district of the Bureau, of a skillful, personable and practical mechanic whose function shall be to go from field to field and instruct licensed mechanics in the newest and best practices as they are evolved in the industry; that he shall function primarily in the encouraging of mechanics to a better maintenance; that he shall hear their troubles, help them with their difficulties and shall in no sense be em-

1. The twelve points set forth represent solely the viewpoint of the National Association of State Aviation Officials. It is believed that the officials of the Department of Commerce and the Bureau of Air Commerce are in substantial agreement on many of these points. However, until they have expressed themselves, this summary must not be considered as a statement of their views.

ployed merely to renew licenses or to grant exemptions from license requirements;

(2) The provision of a type of temporary federal license for use on any aircraft in the transit of the aircraft to a point of inspection or in the testing of aircraft during a period immediately previous to the securing of its regular license.

(b) That the Bureau of Air Commerce budget be increased to provide specifically for these additional necessary activities.

(c) That the issuance of identification numbers for aircraft be accompanied by a clear and unequivocal statement that such aircraft may not legally be flown in a state which requires federal licenses for all aircraft, and that such identification number in no way implies federal approval of the airworthiness of said aircraft.

6. That the Bureau of Air Commerce actively participate in the promotion of a national aeronautical educational program in cooperation with state aviation officials, the National Aeronautic Association, the American Legion, and other national organizations sponsoring such a program—the ultimate aim of this program being to have incorporated, in the curricula of public schools, instruction in the fundamental principles of aeronautics and encouragement of flight instruction in the accredited colleges and universities.

7. That an Educational Section be established in the Bureau of Air Commerce and that an appropriation be secured for the financing of said section.

8. That the National Association of State Aviation Officials is always ready and willing to aid the Bureau of Air Commerce in its promotional activities and that the State Coordinator of the Bureau be authorized to issue such bulletins as may be necessary to keep all state aviation officials informed as to the program and activities of the federal Bureau.

9. That federal legislation be initiated so as to provide federal funds for the construction and maintenance of airports and the construction, maintenance, and operation of navigational facilities.

10. That such federal appropriation be administered by the Bureau of Air Commerce, or other proper federal agency, in cooperation with state aviation officials.

11. That appropriate federal legislation be enacted so as to permit the expenditure of federal funds on all airports, landing fields, and navigational facilities, including air markings, which may be designated by federal and state officials as being necessary to the development of an adequate federal-state airways system.

12. That, in the future and within a reasonable time before the perfection of any federal program for the provision of air navigation facilities (including airports, airways, etc.), a proposed plan of same shall be submitted to the state aeronautical agencies affected, it being understood that the state aeronautical agencies will in turn sponsor no state developmental program without submitting the same, within a reasonable time before its adoption, to the federal Bureau of Air Commerce.

It is expected that a joint statement will be made by the Bureau and the N. A. S. A. O. as soon as some modification can be made by the Bureau It was the unanimous opinion of all present that both federal and state aeronautical legislation are necessary and that substantial uniformity of state

legislation is the practical end to be achieved. While the Department of Commerce officials pointed out some of the difficulties incident to having the federal government take an active part in the sponsoring of state aviation legislation establishing some type of aviation body to supervise promotional and regulatory activities, they indicated a ready willingness to assist in bringing about such results by every proper means at their disposal.

In addition to the Bureau conference, meetings were also had with the Bureau of Public Roads and the W. P. A. Airports Division. The meeting called by Congressman McSwain to discuss the matter of the proposed Junior Air Reserve was well attended by the N. A. S. A. O. members.

At the Wednesday morning breakfast, the representatives heard from Mr. Charles F. Horner, President of the National Aeronautic Association, Mr. Dudley M. Steele, Chairman of the National Aviation Commission of the American Legion, Col. Harold E. Hartney, Technical Adviser of the Senate Committee on Aircraft Investigation, and others.

On Thursday, the delegates were the guests of the N. A. C. A. and the Navy Department on a trip to Langley Field. Mr. John F. Victory, Secretary of the N. A. C. A., saw to it that the day's entertainment was arranged with customary perfection.

Tentative arrangements for the Sixth Annual Meeting at Hartford (with stops at Newark and New York) were made at a Friday conference. The program will be presented for approval by Charles L. Morris, of Connecticut. and the first draft should be ready for circulation within the next few weeks.

N.A.S.A.O. REGIONAL MEETINGS

South East Region:

Forty representatives from six of the southeastern states met at the Ansley Hotel at Atlanta, Georgia, during the two-day period from January 12-13, for the regional meeting called by Vice-President McMullen of Florida.

R. O. Lindsay, Director of Aeronautics for Tennessee, spoke on airport maintenance and, as a result of the discussion on this subject the following resolution was unanimously adopted:

WHEREAS, the Federal Government and the Governments of the various States, Counties and Municipalities of the United States are expending large sums of money in the construction and maintenance of airports, and

WHEREAS, such airports must be maintained in safe and usable condition at all times, and

WHEREAS, the use of tail-skids on aircraft is a distinct detriment to many types of airports because of the tendency of such tail-skids during the process of landing and taxiing to plough deep furrows in sodded fields and treated runways, and

WHEREAS, for obvious economic reasons the additional work and additional cost of maintaining airports resulting from the use of tail-skids should be eliminated, and

WHEREAS, the Southeastern Regional Meeting of the National Association of State Aviation Officials in conjunction with airport managers and aircraft operators in the Southeastern States, after full discussion, decided that the use of tail-skids on airplanes is detrimental to the public safety and the proper and economic maintenance of airports.

NOW, THEREFORE, BE IT RESOLVED by this Regional Division of the National Association of State Aviation Officials in regular convention assembled

at Atlanta, Georgia, this 13th day of January, 1936, that the Bureau of Air Commerce be requested to foster such regulations as may be necessary to eliminate the use of tail-skids on airplanes weighing 1000 pounds or more; airplanes weighing less than 1000 pounds to be equipped with a tail wheel or a spoon-type shoe on the tail-skid, so designed that it will not destroy or damage hard surfaced runways or landing surfaces of airports.

In a talk on "National Defense Values of Commercial Airports," Captain John B. Patrick, Air Corps, Instructor Non-Divisional Air Units, 4th Corps Area, pointed out that it is more desirable to base planes at a number of airports than to attempt the building of underground airports for military purposes. If groups of planes should be stationed within 200 miles of each other, they could readily render aid through the employment of radio devices to help them assemble at a given point.

W. G. Stewart, Assistant Director of the State Road Department of Florida, indicated the possibilities of "Air Education" and stated that "there should be in every state a central distributing point for the dissemination of authentic information of the various aviation facilities which that particular state has to offer. The Aviation Division of the Florida State Road Department attempts to accomplish this by means of Bulletins issued periodically, setting forth items of interest and value. These are mailed not only to fliers, but also to prominent citizens, legislators and aviation enthusiasts within the state, as well as to interested agencies without the state. By this method people throughout the state are kept fully informed as to what is going on, thereby keeping alive their interest and enthusiasm. . . . Florida also compiles and produces each year an official airways map of the state."

Relative to "Student Instruction and Charter Operations," Dexter C. Martin, State Director of Aeronautics for South Carolina, offered the following suggestions: (1) It is the opinion that the instructor should have a special instructor's license issued by the Department of Commerce. Requirements for this license should determine whether or not the instructor is capable of passing on his information to the student. (2) From the operator's standpoint, the student permit requirements have a tendency to discourage, rather than to encourage, a student. Students hesitate to pay for a physical examination and permit until after they have taken sufficient time to become sufficiently air-minded to continue the course. It has been suggested that, instead of a student permit, the Department of Commerce might issue a form affidavit—to be issued by the Department or signed by both the student and his instructor—certifying that the student is physically fit to receive instruction for a period of five hours (or up to solo). Then, before soloing, the student would be required to take a physical examination and obtain his regular student permit. The student would be told, of course, that he assumes the risk of failure to obtain the student permit in case he should fail to pass the required physical examination. (3) It should be compulsory for all students to be given instruction in stalls, spins, and a specified number of dual hours, prior to solo. The suggested dual time would be 8-10 hours before solo. After solo, the instructor should be held responsible for regular checks on the student's flying up to 25 hours of solo.

George Gardner, Superintendent Western Division of Eastern Airlines, discussed the subject of scheduled airlines and stressed the fact that the

present airports are not equipped to accommodate the planes which are now being built for operating during the next winter.

North Central Region:

Vice-President Kirk Baldwin, of Wyoming, was host to the three western regions at his Cheyenne meeting on January 12-14, inclusive. Nearly two hundred delegates from outside the State of Wyoming attended. and the Tuesday evening banquet was attended by about five hundred persons.

Mr. Baldwin, who is the State Treasurer of Wyoming, presented an imhundred delegates from outside the State of Wyoming attended, and the developed the legislative history of air mail carriage—with particular reference to the recent amendments made in the act.

The following resolutions emanating from the convention are of general interest:

III.

WHEREAS, the training of the private flyer should include sufficient specific instruction to engender sympathy and mutual understanding between civilian flying on the one hand and army and navy flying on the other hand for the purpose of solidifying unity of purpose in aviation in peace times and in times of emergency, and

WHEREAS, this regional meeting of the National Association of State Aviation Officials has deemed it of major importance to further the interest of the private operator,

THEREFORE, BE IT RESOLVED, that we as a group petition the representatives of our several states in Congress to enact legislation looking to this end, and as a possible means of accomplishing this purpose request that they investigate the possibility of the federal government paying a percentage of the tuition of those qualified in the United States between the ages of 18 and 30 who are desirous of taking up aviation, and following their instructional work to the grade of a private license. Anticipating that as a matter of national defense, and promotion of the industry as a whole these men and women could be given intensive training in a short period of time, which would meet army specifications for a combat flyer, and a livelihood for the independent operator.

V.

WHEREAS, the National Association of State Aviation Officials at their fourth annual convention approved and adopted a proposed Uniform State Regulatory Act,

THEREFORE, BE IT RESOLVED, that this region again in convention assembled, petition our members to lend every effort within their states to have such legislation enacted by their state legislature looking to the end that we may have in the United States uniform legislation which will be familiar to everyone who flys.

VI.

WHEREAS, the price of gasoline at many airports carries an exorbitant spread as between wholesale and retail prices, in many instances being posted as much as 11 cents above the retail price as posted by the oil companies, which presents a serious obstacle to the growth of private flying,

THEREFORE, BE IT RESOLVED, that we enter our protest and express our earnest desire that the national Aeronautical Chamber of Commerce undertake a survey looking to more uniform prices, based on costs, in order that aviation may be served—rather than deterred—in its growth.

X.

WHEREAS, to the best of our information, Department of Commerce Air Bureau inspectors and supervisors are compelled to rely mostly on other than air transportation to fulfil their duties, and

WHEREAS, but a small percentage of the airplanes now in use are equipped with blind-flying instruments and radio,

THEREFORE, BE IT RESOLVED, that we petition Congress to provide money to the Bureau of Air Commerce so that this Bureau may in turn furnish its field employees with planes and equipment to use in their work—which the Bureau now requires of the air transport companies.

UNIFORM AERONAUTICAL CODE: ACTIVITIES OF AMERICAN BAR AND CONFERENCE AVIATION COMMITTEES

Drafting of the "non-regulatory" division of the three-part Uniform Aeronautical Code undertaken by the American Bar Association Committee in 1934 has made rapid progress during the last few months. On January 24, 1936, the Reporter for the American Law Institute called his advisers to meet in Philadelphia with the aeronautical law committees of the American Bar Association and the Conference of Commissioners on Uniform State Laws for the purpose of discussing and drafting a uniform act. On January 13th, in Chicago, the committees of the Conference and Bar Association had previously met for the same purpose.

The substantive law act now being drafted has recently been named the *Uniform Law of Air Flight* and deals with such questions as the right of flight, the liability of the owner and operator of aircraft to passengers, shippers and third persons on the surface, liability in case of collision of aircraft and other similar topics, including the advisability of fixing a maximum limit of liability and requiring compulsory insurance to cover the liability imposed. A fourth division has been added which is entitled *Uniform Air Jurisdiction Act* and deals with such problems in the conflict of laws as the jurisdiction of crime, torts, contracts and non-contractual acts taking place on board an aircraft in flight.

The Philadelphia meeting was attended by the following: *William A. Schnader* of Philadelphia, Chairman of the Conference and Bar Association committees and Reporter for the institute; *Dean William Draper Lewis* of Philadelphia, Director of the Institute; *Francis H. Bohlen* of the University of Pennsylvania Law School, Adviser to the Reporter; *Judge Augustus N. Hand* of New York, Adviser to the Reporter; *Nathan William MacChesney* of Chicago, Adviser to the Reporter and member of the Conference committee; *Edward S. Thurston* of Harvard Law School, Adviser to the Reporter; *Mrs. Mabel Walker Willebrandt* of Washington, D. C., member of the Bar Association committee; *J. Purdon Wright* of Baltimore, Maryland, member of the Conference committees, and *Edward C. Sweeney* of Rock Island, Illinois, Assistant to Mr. Schnader, appointed by the Conference of Commissioners.

At the later meeting, a tentative draft of the Reporter, William A. Schnader was submitted for discussion and analyzed. Numerous changes were suggested at the meeting but the revised draft remains tentative, and it has been agreed that the draft will be held confidential by the committees

until the detailed provisions have been more thoroughly discussed and definitely accepted by the committees.

Following the understanding reached prior to the annual meetings in 1934, the American Bar Association committee is cooperating with the committee of the Conference of Commissioners, in an advisory capacity, in drafting the present three part Uniform Aeronautical Code. The uniform act being prepared by the American Law Institute is an independent undertaking, although a working agreement has been reached by the executive committees of the Conference and the Institute to cooperate with a view of adopting and recommending an identical act. With this objective, William A. Schnader was appointed Reporter for the Institute as well as chairman of each of the other two committees.

The American Law Institute is taking an active part in drafting the Uniform Aeronautical Act pursuant to a new policy adopted by the Institute at its annual meeting in 1935. The policy was a decision to engage in drafting uniform laws relative to matters covered by the Restatement, and where the Institute feels the law should be changed or developed. The Uniform Aeronautical Act is one of the first to be prepared by the Institute. The procedure adopted by the Institute is similar to that followed with the Restatement, namely, to appoint a Reporter and Advisers to assist the Reporter. The Reporter is responsible to the Director of the Institute and to the Council, which body must approve the Act and refer it to the annual meeting of the Institute for adoption. The present Advisers to the Reporter, William A. Schnader, are: Francis H. Bohlen, John C. Cooper, Jr., Augustus N. Hand, Nathan William MacChesney, and Edward S. Thurston.

The Institute Advisers and two committees plan to hold further meetings this spring and are endeavoring to have at least a tentative draft of the Acts ready for presentation to the annual meeting of the American Law Institute in May, 1936, and to the annual meetings of the Conference of Commissioners and the American Bar Association in August, 1936.

The members of the American Bar Association and Conference committees for the present year are as follows:

(1) **American Bar Association Committee on Aeronautical Law**

WILLIAM A. SCHNADER, Chairman. Packard Building, Philadelphia. Pennsylvania.

JOE CRIDER, JR., H. W. Hellman Building, Los Angeles, California.

GEORGE B. LOGAN, 506 Olive Street, St. Louis, Missouri.

HOWARD OSTERHOUT, 20 Pine Street, New York City, New York.

MABEL WALKER WILLEBRANDT, Shoreham Building, Washington, D. C.

(2) **National Conference of Commissioners Committee on Uniform Aeronautical Code**

WILLIAM A. SCHNADER, Chairman. Packard Building, Philadelphia, Pennsylvania.

ROBERT T. BARTON, JR., Mutual Building, Richmond, Virginia.

GEORGE G. BOGERT, University of Chicago Law School, Chicago, Illinois.

NATHAN WILLIAM MACCHESNEY, 30 North La Salle Street, Chicago, Illinois.

HENRY C. MACKALL, First National-Soo Line Building,, Minneapolis, Minnesota.

JOHN C. PRYOR, Law Department, C. B. & Q. R. R. Co., Burlington, Iowa.

J. PURDON WRIGHT, Maryland Trust Building, Baltimore, Maryland.

EDWARD C. SWEENEY.*

* Of the Illinois Bar. Inspector, Illinois Aeronautics Commission, and Secretary of the Illinois State Bar Association Aviation Committee.

FEDERAL REGULATION

AIRPORT AND AIRWAY TRAFFIC CONTROL: ADDITIONAL DATA AND SAFETY AGREEMENTS

In the January issue of the JOURNAL the general subject of Instrument Flying Near Airways and Airway Terminals was dealt with at page 116. The "Notice to All Pilots and Operators," as modified on November 15, 1935, was reprinted in full. Further, the inter-air line safety agreement covering the Chicago-Cleveland-Newark Airway was printed on page 117.

Since then, certain supplementary data are available and make possible the presentation of a more complete coverage of the subject matter.

General Statement of the Problem:

The increased volume of instrument flying in and above clouds and overcast makes some form of traffic control imperative for the civil airways and major airports of the United States.

Developments in instrument flying have been such that airmen now fly in weather which formerly would have been prohibitive. As a result, air lines are able to adhere more closely to schedules and other operators find it possible to use their airplanes more regularly. However, with airplanes operating under conditions of visibility and ceiling which prevent pilots from seeing ahead, or, in other words, when the planes are flying in, climbing through, or descending through solid or broken clouds, there is introduced a collision hazard which has to be avoided by controlling the movements of aircraft so that they will not come together in the air.

The Bureau of Air Commerce, Department of Commerce, has made extensive studies of the problems involved, in conjunction with the Army, Navy, Marine Corps and Coast Guard, as well as the operators of airports, air lines and charter services and the owners and pilots of privately operated aircraft. A number of the larger airports already have installed traffic control towers manned by personnel who direct the movements of aircraft to and from their landing areas by means of radio and light signals.

In an effort to obtain all viewpoints, and receive all possible suggestions, the Bureau invited a representative group of all interests concerned to attend a conference on air traffic control in Washington November 12, 13 and 14 to draft these proposed recommendations. As a result of its studies and of the discussions which took place at the conference, the Bureau has already taken some preliminary steps, and has drawn tentative plans for the development of a comprehensive proposed system of air traffic control, which are set forth hereafter.

The Bureau of Air Commerce appears to be the logical agency to promulgate and enforce uniform rules governing air traffic into and out of the terminal airports and along the airways. This regulation, to be effective, should include the licensing of the "air traffic regulators" who direct air traffic from existing control towers at airports and from towers which may be established later.

However, before proceeding with the formulation and publication of such rules and licensing requirements, the Bureau, in keeping with its long standing policy, desires that all in the industry be informed of what is contemplated so that they may offer their comments and suggestions.

Therefore, the first questions as to which you are asked for an expression of opinion are:

Do you concur that the Department of Commerce should now regulate all air traffic in the vicinity of airports on civil airways,

and en route between airports on civil airways, during both good and bad weather, with appropriate bad weather air traffic rules?

Do you concur that the Department of Commerce should license the "air traffic regulators" who are and will be engaged in controlling such air traffic?

The Bureau already has acquainted the Army, Navy, Marine Corps and Coast Guard with its views. Those agencies have subscribed to them and will collaborate in the drafting and adoption of air traffic rules.

For the beginning of the discussions which culminated in the November 12 conference and the action growing therefrom, it is necessary to go back to April 8, 1935. On that date the air line operators met in a conference called by the Director of Air Commerce for consideration of various problems, one of which was air traffic control. The operators at that time recommended that the Department of Commerce should make a study of the existing situation and provide some method of dealing with the collision hazard which existed not only for the air lines but for all other users of the airways as well, and particularly the users of airways on which traffic was heavy. Several meetings subsequently were held at various cities having control towers.

Army, Navy, Marine Corps and Coast Guard aircraft also are users of the airways, and in September the Bureau invited those agencies to participate in a conference with a plan for uniform control and compliance as its objective. All accepted, agreed that some such plan was necessary, and expressed their willingness to help in formulating it and to assure compliance by their airmen. The work of setting up a proposed plan that would be practicable and workable for all who use the airways was undertaken.

The Bureau realized that considerable study would be required and a number of meetings would have to be held before a workable plan could be adopted and put into effect, and that in the meantime the bad weather of the winter months would increase the amount of intentional instrument point-to-point flying, making some precautionary measures necessary.

We were aware also that some of the airlines, of necessity, had provided their own inter-air line agreement for safety between their own aircraft such as the operation on the Chicago-Newark airway and at congested airports. However, other airmen who were not aware of the agreement and were therefore not complying with it were themselves in danger of collision and also were potential hazards to the aircraft of the regular scheduled air line systems. It therefore became necessary as a precautionary measure to ask airway users other than air line operators to cooperate by refraining temporarily from intentional instrument flying in the vicinity of the airways and terminals. The Notice to All Pilots and Operators, dated November 1, which put this procedure into effect was intended to govern only until a more comprehensive rule could be adopted. Following the November 12 conference, the first precautionary measure was superseded by a modified Notice to All Pilots and Operators which is quoted herein. (See Sec. II.)

The Air Traffic Control Conference convened on Tuesday morning, November 12, in the Commerce Building at Washington, with the following represented:

Private pilots	Marine Corps
Commercial pilots	U. S. Coast Guard
Air line pilots	Airport operators
Charter services	Air line companies
Aeronautical radio interests	National Aeronautic Association
Weather Bureau	Aeronautical Chamber of Commerce
Army	Aviation Insurance Underwriters
Navy	

After opening addresses by Eugene L. Vidal, Director of Air Commerce, and Col. J. Carroll Cone, Assistant Director of Air Commerce in charge of Air Regulation, R. W. Schroeder, assisting Col. Cone, took the chair for the three-day session and its detailed general discussion of all phases of air traffic.

At the conclusion of this general discussion the conference was organized

into committees. All present were made members of the General Committee (a list of those attending begins on page 23), and four subcommittees were appointed as follows:

Subcommittee on Precautionary Regulation Measure
Subcommittee on Flight Altitude
Subcommittee on Airport Traffic Control
Subcommittee on Airway Traffic Control

The subcommittees began their sessions immediately. On Wednesday, November 13, the General Committee reassembled to receive and discuss reports of the subcommittees. Recommendations appearing hereafter in this article represent the findings of the various committees, as finally approved by the General Committee. Section II is the modified precautionary measure for the guidance of airmen engaging in intentional instrument flying along airways and in the vicinity of airports. Section III is an inter-air line safety agreement covering operations on the Chicago-Cleveland-Newark Airway, discussed by members of the General Committee in a special meeting on November 14 and temporarily approved by the Bureau of Air Commerce. Sections IV, V and VI, respectively, are the reports of the subcommittees on Flight Altitude, Airport Traffic Control and Airway Traffic Control, which now are presented as the proposed basis for regulations covering these various phases of air traffic control.

The Bureau will welcome comments and recommendations on any or all of the topics covered by this memorandum. These should be transmitted as soon as possible, and in any event should reach the Bureau before December 15, 1935. Communications on this subject should be addressed for the attention of Col. J. Carroll Cone, Assistant Director of Air Commerce in charge of Air Regulation. When commenting, please mention the section and paragraph numbers involved.

Flight Altitude:

The report of the Subcommittee on Flight Altitude[1] follows:

1. It is recommended that a mercurial barometer and also an aneroid barometer to facilitate rapidity of readings be established at each important terminal airport and that station pressures obtained from these instruments be reduced to sea level in accordance with the standard atmosphere, using a special table for each particular station depending solely on the height for that station. The readings obtained from this table are to be broadcast to pilots in order that the plane altimeters will be set to indicate height above sea level and in order to permit them to land just as their altimeters read the surveyed height of the field. A standard table can be provided to the military services to permit them to convert the pressure settings required for the type of instruments now used. The practice of calibrating the company instruments against the mercurial barometers will be adopted.

2. It is further recommended that the sea level pressures reduced in accordance with the standard atmosphere be added to all teletype and radio sequence weather reports in order that no possible confusion will result between the altimeter pressure reading and the meteorological pressure reading. One should be entered at the beginning of the report and the other at or near the end of the report.

3. It is recommended that the meteorological pressure reading should not be broadcast but should be continued in teletype sequence reports.

4. It is recommended that the Department of Commerce issue an elevation which will be considered standard for each individual airport. This standard elevation will be taken as eight feet above the most used landing point of the airport.

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1. The Subcommittee on Flight Altitude included: Murl Estes, Capt. John S. Griffith, L. P. Harrison, Harlan Hull, J. L. Kinney, D. M. Little, E. P. Lott, E. J. Martin, R. L. Mitchell, C. E. Potts, Hugh Smith, Eugene Sibley, and C. I. Stanton.

5. It is recommended that both the standard and check altimeter in each plane be set in accordance with the above recommended standard of sea level pressure.

6. It is recommended that standard nomenclature regarding altitudes, altimeter settings and pressures be adopted and used by all aircraft operators. The nomenclature already adopted by the NACA should be adopted so far as possible.

7. It is further recommended that all altimeters used for broadcasting landing pressures at an airport be checked at least once every 24 hours with the Weather Bureau standard mercurial barometer, and a correction thus obtained be applied to the station altimeter readings for the ensuing 24 hours and only such corrected readings be utilized for aircraft altimeter settings.

8. It is recommended that altimeters be reset in flight to sea level pressure settings broadcast by the nearest station.

9. To effectuate the recommendations already made, it is recommended:

(a) That the Weather Bureau furnish tables for each airport having a mercurial barometer to permit the obtainment of sea level pressure settings for altimeters from station pressure readings; and

(b) That the Bureau of Air Commerce issue printed regulations and instructions for their enforcement.

Airport Traffic Control:

The report and recommendations of the Subcommittee on Airport Traffic Control[2] follow:

1. *Control tower equipment and personnel*

(a) Any airport having radio range beacon facilities where traffic warrants as determined by the Department of Commerce (and other airports where necessary), shall be equipped with a radio control tower, manned by licensed control tower personnel. Such control tower operators shall be licensed by the Department of Commerce and Federal Communications Commission.

(b) The airport shall be provided with a visual landing "T" with remote indicator in the control tower and with remote control of the wind "T" in the event of little or no wind, or to direct landing and take-off on desirable runway in the event the "T" indicates a direction other than the direction of a runway.

2. *Equipment (Control Tower)*

(a) Transmitter with variable power which will transmit at least 50 miles at all times. Full power will be used only when absolutely necessary.

(b) Sufficient receivers to handle all traffic, including 3,105 kcs. day and night frequencies.

(c) Up-to-date maps covering all airways converging on that particular airport.

(d) Chart for plotting positions of all airplanes coming in and departing.

(e) Sufficient communication facilities, such as telephones and interphones.

(f) Altimeter or barometer to be decided.

(g) Remote control wind velocity and direction indicators.

2. The Subcommittee on Airport Traffic Control included: Richard Aldworth, R. L. Baker, F. W. Barker, John Berry, C. V. Burnett, Paul Goldsborough, J. G. Herlihy, L. P. Hudson, W. E. Jackson, H. P. Little, M. A. Moltrup, O. D. Murphy, L. Pabst, G. C. Pomeroy, T. A. Schmidt, S. L. Shannon, John H. Shobe, and S. J. Solomon.

(h) Log book.

(i) Control switches for entire lighting system of airport.

(j) One accurate clock.

(k) All equipment to be approved by the Department of Commerce.

3. *Equipment (Aircraft)*

(a) All aircraft using a transport airport with control tower shall be equipped with at least a radio receiver capable of receiving at least from a distance of 50 miles at all times, except during daylight hours when the ceiling is not less than 1,500 feet and the visibility is not less than 5 miles.

4. *Personnel qualifications*

(a) Age: At least 25 years.

(b) Experience: At least two years of close application with aviation around an airport. A permit will be issued for one year to allow personnel to qualify where control towers have just been installed.

(c) High school education, or equivalent.

(d) Shall have radio license.

(e) Shall have served satisfactorily one year as apprentice radio control tower operator.

(f) Shall be approved by a board of the following: The airport manager, one operations man and one pilot from each air transport company operating from the airport in question, one Department of Commerce air line inspector, and one representative each from the Army, Navy, Marine Corps, U. S. Coast Guard and Weather Bureau. If at any time representatives of the above named groups are unable to attend board meetings, the number of representatives necessary to constitute a quorum will be decided by the airport manager concerned.

5. *Method of examining applicants for operator's license*[3]

(a) Physical, which shall include good eyes, ears and good voice (clear diction, and good radio voice).

(b) Knowledge of weather.

(c) Knowledge of operations.

(d) Knowledge of Weather Bureau and Department of Commerce communications.

(e) Practical examination on control tower.

(f) Examination on Air Traffic Rules.

(g) Knowledge of all aids on airways converging on control tower.

6. *Wind "T" and use of light gun*

(a) The location of the wind "T" should be standardized as well as the color background and color of the "T" itself. The wind "T" should be located as closely as possible to the control tower at all airports; and the background should be black with the "T" itself light yellow.

(b) A red light on the "T" should be the standard signal to a pilot in flight not to attempt landing; upon receiving this the pilot should continue to circle until the green light is given, or until he receives instructions by radio or in accordance with (c).

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3. Each of the following will submit a list of questions to committee for examinations: Jack Herlihy, United Air Lines; J. F. Martin, Central Airlines; W. S. Rosenberger, Pennsylvania Airlines; Sid Shannon, Eastern Air Lines; Ted Schmidt, American Airlines; Jimmie Johnson, United Air Lines; Harry Musick, Central Airlines; and Geo. Andrus, Weather Bureau.

(c) Red light with gun flashed on a plane in the air should be the standard signal to a pilot not to attempt landing; upon receiving this, the pilot should continue to circle until a green light is given with gun.

(d) The red light with gun given a plane on the ground should be the uniform signal to the pilot for him to stand still in his tracks, with the white light as a uniform signal for taxying with caution.

(e) The green light with gun to a plane on the ground is a uniform signal for take-off.

NOTE: Where aircraft are mentioned herein, lighter-than-air aircraft as well as heavier-than-air aircraft are included.

7. *Suggested phrascology for landings*

(a) *Pilot:* (Shall call to control tower at least ten minutes out of airport), "Smith in United Air Lines 111 to WRDT—Over Elyria at 2000. Go ahead."

(b) *Control Tower:* "WRDT to Smith United Air Lines 111—over Elyria at 2000—there is one Pennsylvania Boeing just leaving the west side of the field flying at 1000 feet bound for Detroit; there is also one ship approaching the port just five miles southeast."

(c) *Control Tower:* "Wind—northwest nine."

(d) *Control Tower:* "Barometer—....."

(e) *Control Tower:* "Ceiling—....."

(f) *Control Tower:* "Visibility—three miles."

(g) *Control Tower:* "There is one student ship flying around the field and is now just over the southwest corner of the field. Nothing on the field at the present time."

(h) *Pilot:* "OK—WRDT—Wind northwest nine.*" (*Velocity in miles.)

(i) *Control Tower:* "WRDT to Smith in United Air Lines 111—That ship from the southeast is just landing and taxying toward the hangar line leaving the field clear."

(j) *Control Tower:* "OK Smith in United Air Lines 111—I can see your ship southwest of the field—there is nothing around that section to bother you; that small student ship is several miles south of the field and not approaching at the present time. OK to come straight into a northwest wind for your landing; use east portion of field (or runway)."

(k) *Control Tower:* "OK Smith to turn right; small student ship landing to your left; taxi on to gate Number ...."

8. *Procedure for take-off*

(a) *Pilot:* "Smith—United Air Lines 111 at Gate five to WRDT—trip 14 east bound; I expect to fly at 10,000—go ahead." (If pilot changes in altitude, station gets this during contact.)

(b) *Control Tower:* "WRDT to Smith 111—time, just coming up 12:32½; barometer 29.86."

(c) *Pilot:* "OK, WRDT."

(d) (When pilot is given clearance by ground dispatcher) *Control Tower:* "WRDT to Smith 111—OK to taxi south and prepare for take-off into northwest wind, nine miles per hour; one ship approaching for landing just over south boundary of field; will not bother you as he is using west portion of field."

(e) (When it is seen that ship has warmed motors and is ready for take-off) *Control Tower:* "Clear behind you, Smith 111. Field clear—OK for your take-off."

(Pilot must not take off without this OK; call Tower if not received.)

(f) (As soon as ship is well in the air) *Control Tower:* "Nothing

north or east of you, Smith 111. OK to turn right. One ship reported on your course over Warren, westbound at 3000."

(g) *Pilot:* "OK, WRDT."

9. *Proposed airport traffic control regulations*

(a) *Take-off.*

(i) All pilots shall notify control tower at time of take-off the altitude at which they plan to fly. Any change in such altitude while en route shall be communicated to all control towers concerned through the media of company radio, interphone or telephone. The control tower operators shall disseminate this, as well as all other information, to the fullest extent of all facilities at their command.

(ii) All available aircraft position reports received via company radio shall be furnished the control tower by interphone or telephone. (This will allow the control tower operator to furnish all available information to aircraft about to take off.)

(b) *Coming in.*

(i) Times of departure of all aircraft from last station shall be furnished the control tower at destination. Any re-routing of schedules after original dispatch shall be reported to all control stations concerned.

(ii) All incoming aircraft position reports received by various company radios shall be furnished to control towers via interphone or telephone until each individual trip has come into the communicative range of the airport control tower. In connection with this, each trip en route should give time of passage over known points such as landmarks, marker beacons, etc.

(iii) When incoming aircraft come into the communicating range of the control tower, they will be under the direction of the control tower operator, who will issue landing instructions such as "Stay out 15 miles until instructed to come in," "OK to come in," etc.

(iv) If, in case of restricted control tower communicating range because of any condition, the tower operator desires to issue instructions to take effect when an aircraft enters the airport control area, he shall communicate such instructions to the company concerned, who will relay them to the aircraft via their two-way radio, or in an emergency, by Department of Commerce radio range facilities.

(c) To facilitate handling of traffic about airports equipped with control towers, right-hand turns after take-off and in approaching for landing will be permitted with the permission of the control tower, upon the request of, and at the discretion of the pilot, providing safety is not jeopardized in any way. Such right-hand turns will be made only with the permission of the control tower, given for each particular flight.

(d) At airports equipped with control towers, no local flights will be made when the ceiling and visibility are under the local authorized minimums set up for the guidance of private operators at each airport.

Airway Traffic Control:

The report of the Subcommittee on Airway Traffic Control[4] follows:

1. The first recommendation, generally agreed upon by the committee, was that the inter-line operating agreement now in effect between Chicago, Detroit, Cleveland and Newark be used as a foundation upon which to base conclusions recommended for adoption. It was further recommended that the present inter-line agreement, in a reconstructed form, be adopted as Air Commerce regulations to govern all traffic over the affected airways.

4. The Subcommittee on Airway Traffic Control included: James Burns, D. B. Colyer, M. V. Fredenhagen, L. G. Fritz, George E. Gardner, E. G. Hamilton, R. I. Hazen, Gage Mace, Paul E. Richter, John Shobe, Capt. W. B. Souza, C. T. Solt, Earl Ward, and A. E. Wilson.

2. *Airway Traffic Control*

(a) It was recommended by the committee that a uniform and centralized system of airway traffic control be set up by Air Commerce, such system to be handled by a group of government employees to be known as "flight control officers" and to be located at strategic points. Points throughout the East where these flight control officers should be located were designated by the committee as Chicago, Cleveland, Detroit, Pittsburgh, Newark and Washington.

(b) The function of these flight control officers would be to direct and coordinate the progress of all flights, whether government, civil or commercial over the federal airways, so as to insure the maximum amount of safety in flight by preventing traffic confusion which might result in collisions along the airway. They would also be charged with the directing of traffic over the federal airways so as to insure arrivals at airports of scheduled air line aircraft as well as all other flights in an orderly sequence, thus preventing serious congestion and the resultant confusion around busy airports.

(c) At centers having control towers it was agreed by the committee that such flight control officers should handle *airway* traffic only, their jurisdiction to end and begin where the incoming or outgoing aircraft entered or departed from the effective communicating range (radio) of the control tower concerned.

(d) It was also agreed by the committee that the flight control officer be stationed in the control tower or as adjacent thereto as possible to insure complete coordination and cooperation between himself and the federally *licensed* airport control tower operator.

3. It was recommended that: For the establishment of a uniform airway traffic control system the following rules should govern for all aircraft flying in the Washington-Detroit, Washington-New York, Chicago-Cleveland-New York, and Chicago-Pittsburgh airways.

(a) That all eastbound flights or any planes flying a true course of from 0° to 179° will always fly at even thousand foot levels; that is, 2000, 4000, 6000, etc. All westbound planes, or any planes flying a true course of from 180° to 359° will always fly at the odd thousand foot levels; that is, 1000, 3000, 5000, etc. This regulation will be followed day and night and under all weather conditions except when taking on ice or when meeting up with a condition which prohibits safety of flight at the stated level. When necessary to vary from the stated level, it will be the duty of the pilot to immediately communicate with the company, Department of Commerce or other ground station informing them of the conditions encountered, and his intended action, and the company, Department of Commerce, or other ground station will in turn advise the airway flight control officer.

(b) *Crossover points.* All pilots shall maintain an altitude of 500 feet above the established even or odd altitude cruising level governing east and westbound flights until crossover point has been definitely passed.

Such crossover points shall be designated in the rules governing airway traffic and shall be marked by known fixes such as cross beams, marker beacons, known landmarks, etc.

(c) All aircraft when approaching their destination shall not start their descent until designated crossover point has been passed. In the event such designated crossover point is close to the point of destination, in an area where normal operating procedure would require the incoming aircraft to be descending for its approach to the airport, the pilot shall report the altitude at which, and the approximate time he will effect the crossing. Such crossing must be made in level flight and in accordance with any existing rules governing "odd thousand" or "even thousand" foot levels for directional flight.

(d) *Off airway operations.* All aircraft flying off established federal airways and crossing such airways shall conduct all operations at 500 feet above the even thousand foot levels on eastbound flights and 500 feet above the odd thousand foot lovels on westbound flights. That is, all flights pur-

suing a true course of from 0° to 179° shall do so at 2500 feet, 4500 feet, 6500 feet, etc. All flights following a true course of from 180° to 359° shall do so at 1500 feet, 3500 feet, 5500 feet, etc.

4. Position reporting shall be made uniform and in accordance with the following:

(a) All pilots will report to their various ground stations as outlined above the exact time of passage over known fixes such as cross beams, marker beacons, cones of silence, known landmarks, etc.

(b) All pilots will report cruising altitude, estimated ground speed, remaining gasoline supply in hours and minutes, weather conditions, whether on instruments, on top, between cloud layers, or underneath.

(c) Pilots not flying at a constant altitude shall report whether they are climbing or descending, giving the rate of ascent or descent, and will maintain such reported rate until a stated altitude is reached at which they will again resume normal level flight.

(d) All pilots, when approaching their destination, shall report the time of starting their descent, the rate of descent, the estimated time of arrival over the field in minutes out from the airport, ground speed, amount of fuel in hours and minutes, and any other information pertinent to flight control.

5. All outgoing aircraft shall maintain flight on the right side of the beam and off the on course signal at all times while progressing away from a station.

6. All pilots other than air line pilots operating on regular schedule shall obtain a trip clearance from the receiving flight control officer, at which time they will submit a flight plan.

7. All pilots engaging in intentional instrument flying shall hold a rating similar and equal to that held by scheduled air transport pilots.

8. Continuous beam operation should be provided at all designated control points such as Chicago, Newark, Detroit, Pittsburgh, Cleveland and Washington, as well as other stations from time to time as it becomes necessary.

9. To definitely designate airport control limits, marker beacons of the MRL type with variable power should be installed on each leg of the radio range at a distance of about 30 miles out from the airport at an adequate airport or emergency landing field. Another should be installed 60 to 80 miles out from the airport to furnish a check point by which to estimate ground speed, estimated arrival time, and a "spot" at which to hold incoming traffic to prevent congestion.

10. In order to facilitate the handling of airway and airport traffic control and to provide radio marked alternate landing fields for use in emergencies, marker beacons of the MRL type should be installed at the following alternate fields:

For Newark

Floyd Bennett	Lancaster
New Hackensack	Patterson
Trenton	Martin's Creek
Hartford, Conn.	(or Allentown)

For Washington

Aberdeen	Quantico
Frederick	

For Pittsburgh

Mercer	Butler
Greensburg	East Liverpool, O.

For Cleveland

Warren	Perry
Akron	Vickery
East Liverpool, O.	

For Detroit (Wayne County)

Detroit (city)	Selfridge

For Chicago

Lansing	Joliet
South Bend	Curtiss Reynolds
Kalamazoo	

For St. Louis

Curtiss Steinberg	New Florence
Springfield, Ill.	

For Burbank

Saugus	Palmdale
Indio	Mines Field
March Field	

For Oakland

Sacramento	San Francisco
Fresno	Tracy

For Kansas City

Ft. Leavenworth	Gardner

For Fort Worth

Dallas

The following recommendations (11, 12 and 13) were added by the General Committee:

11. That weather broadcast frequencies be reassigned so as to minimize the possibility of stations operating on the common frequency (236 kcs.) interfering with each other. For example, this would apply to Newark, Washington, Pittsburgh, Cleveland, Detroit and Chicago. It is suggested that the weather broadcast frequencies be "staggered" so that distance would overcome interference.

12. When local ceiling and visibility limitations permit flying underneath an overcast or broken cloud condition about terminal airports and congested areas where radio ranges and/or control towers are installed and operating, and where instrument flights terminate, all aircraft operating *underneath* such overcast or broken cloud condition and within the controllable limits of the radio range and/or control tower shall fly not less than five hundred feet below the ceiling to avoid the possibility of collision with other aircraft which might be descending through the overcast or broken cloud condition.

13. It was further recommended in conclusion that this entire matter of air traffic control be duplicated and submitted to the aviation industry as a whole for final comment and recommendation.

Inter-line Safety Agreement Approved by the Department of Commerce Covering Regulation of Air Line Traffic in the Vicinity of Kansas City:

The following agreements have been agreed to and therefore, become binding on aircraft operated by Transcontinental & Western Air, Inc., Braniff Air Lines, and Hanford Tri-State Air Lines, Inc.

(January 13, 1936)

1. All operating companies will equip their dispatch offices with interphone system between all operators on the airport.

2. It shall be the responsibility of the respective companies radio dispatchers to check their Kollsman reading with that of the other companies in order that all Kollsman settings will be uniform. This check shall be made at 9:00 A.M. each day.

3. All pilots shall strictly adhere to the regulations covering flying on the right hand side of the established airways and lights during ground contact flying. When instrument or on top flying is necessary, pilots shall proceed on the right hand side of the radio beam course. All flights that are not on a definite right hand side of an airways or radio beacon course during ground contact or on top flying shall remain a minimum of ten miles to the left of the center of the airway.

4. Whenever it is necessary to cross another airway or radio beam course, it is required that the course be crossed at not less than a 45° angle at the even or odd altitude according to the direction plane is proceeding.

5. All East and North bound planes or any planes flying a course of from 0° to 179° true, shall fly at even one thousand foot levels, that is, 2000 feet, 4000 feet, 6000 feet, etc. South and West bound planes, or any plane flying a course from 180° to 359° true, shall fly at odd one thousand foot levels, that is, 1000 feet, 3000 feet and 5000 feet.

6. Weather conditions not permitting flying at the prescribed odd or even altitudes account icing or turbulent air conditions, the pilot will immediately advise ground station of the altitude selected any deviation therefrom, which information shall be given to the respective airline dispatchers over interphone system.

Braniff Airways planes bound Kansas City to Tulsa shall fly due South from Kansas City Airport until 10 miles from the airport.

8. The approximate departure time of all flights will be phoned to other lines as soon as known and at least 10 minutes before flight departs.

9. Pilots of outbound flights, when weather at Kansas City is overcast, shall advise their radio dispatcher the altitude they expect to fly, whether they plan on remaining underneath overcast or flying on instruments, or climbing up on top. The radio dispatcher shall notify all other lines of this intent before departure of the flight. During low overcast conditions, no plane shall be cleared from Kansas City Airport when an inbound plane is due to arrive over the beam station within five (5) minutes of the departure time of the outbound plane. This plane shall be held on the ground until the inbound plane lands.

10. During overcast conditions necessitating instrument flying, the position and altitude of outbound flights shall be phoned to other lines as soon as received and until flight is over 100 miles from Kansas City.

11. The radio dispatcher on duty will inform all other operators' dispatch offices of the time that an incoming flight departed or passed over the last scheduled stop. This information is to be given immediately after the flight movement report is received or after first scheduled radio contact with plane.

12. Transport planes of all airlines converging into the Kansas City Airport will report their positions to their respective ground stations as follows:

(a) TWA, Braniff, and other planes from the West shall report time of crossing over Lebo.

(b) TWA, Braniff, and other planes from Chicago shall report time over Kirksville.

(c) TWA and other planes from the East shall report time over Columbia.

(d) Hanford Air Lines and other planes from Omaha shall report time passing St. Joseph when position definitely known, otherwise time of departure from Omaha and estimated time of arrival at Kansas City will be reported.

These position reports are to be made as soon after passing the check point as traffic on the radio will permit, however the exact time of crossing the check point must be reported in order that the arrival time of the airplane can be closely estimated. The radio dispatcher will inform all other lines as soon as this information is received.

13. The radio dispatcher on duty is to inform all other operators of the estimated time of arrival as given by the pilot.

14. All pilots will keep their ground station advised of their altitude and time of passing over cone of silence when minimum ceilings necessitate the use of the final approach leg of the beam and precision instrument approach over the airport. Pilots will also keep their ground station advised of any change of plans immediately. The radio operator shall phone this information to other lines as soon as received.

15. When two or more flights are estimated to arrive at Kansas City on top or on instruments at about the same time, the flight control officers of the different lines will decide the order in which the planes are to land. This is to be based on the estimated arrival time.

16. The plane instructed to land first shall approach at 2000 feet and work out the beam problem at this altitude. The next plane in line may approach the airport at 3000 feet after definitely knowing he is within 20 miles of the airport, in order to be ready to work his beam problem as soon as the first plane lands.

17. If there is a third, or more, planes approaching at this time, these planes are to circle at a distance of at least 20 miles from the airport and remain on or near the beam on which they have been approaching Kansas City, and at or over 4000 feet. If the pilot is uncertain of his position, he will be assigned an altitude to circle at until his turn, by the flight control representative of the airline concerned.

18. As soon as the first plane lands, the second plane in line will be instructed to lower to 2000 feet and work out his beam problem, and the next plane in line is to be instructed to lower to 3000 feet and approach the beam station to be ready to land when the ship ahead of him has landed.

19. After working the beam problem and getting underneath, the pilot will report being underneath immediately. The radio operator will phone this information to the other lines if they have a ship waiting to come in.

20. The radio operator shall inform other lines of the arrival at Kansas City Airport of all planes.

Inter-air Line Safety Agreement Approved by the Department of Commerce Defining Air Traffic Lanes Between Fort Worth and Dallas:

(February 1, 1936)

Due to the position of the Fort Worth and Dallas Airports, with relation to the Fort Worth radio range course and the beacon course between Fort Worth and Dallas, it is necessary to establish two traffic lanes between these airports: One traffic lane for Contact Flying—Day or Night; and one traffic lane for Instrument or Over-The-Top Flying—Day or Night have been established and regulations governing the operation of scheduled airline aircraft between Fort Worth and Dallas are outlined below, and all operators shall be governed accordingly:

1. *General:* All scheduled airline aircraft shall be equipped with Sensitive Type Altimeters, properly calibrated and set to existing barometric pressure reduced to sea level in accordance with the standard atmosphere.

It is recommended that altimeters used for broadcasting landing pressures at each airport be checked at least once every twenty-four (24) hours with a master Weather Bureau standard mecurial barometer, and a correction thus obtained be applied to the station altimeter readings for the ensuing 24 hours and only such corrected readings be utilized for aircraft altimeter settings.

All altimeters shall be re-set in flight to sea level pressure settings broadcast by the nearest station.

Contact Flying—Day or Night

1. Takeoffs from Fort Worth or Dallas shall conform to the attached diagrams, showing direction of takeoffs at Love Field, Dallas, and Meacham Field, Fort Worth.
2. During daylight—the Airline Highway (dirt road which leads directly into Love Field from the west and intersects the Northwest Highway about 3 miles east of Meacham Field) is designated as the center of the traffic lane for daylight flights between Fort Worth and Dallas and all planes approaching or departing from either of these airports when weather conditions as seen from the cockpit are less than 3000 ft. ceiling and/or 5 miles visibility from the plane shall maintain a course along the right-hand side of the airway (when doing contact flying but in and out of broken clouds, planes must keep on the right-hand side of the radio beam).
3. When conditions are at or below the above mentioned limitations, planes shall not fly closer than 10 miles to the airway when flying on the left-hand side of such.
4. All planes flying between these two airports shall keep at least 1 mile to the right of this defined airway, except during landings and takeoffs.
5. When necessary for pilots to cut across an airway in order to get on the right-hand side, the airway shall be crossed at an angle of not less than 45 degrees, in order to get on the right side of the airway as quickly as possible.
6. During darkness the beacon line is designated as the center of the traffic lane between Ft. Worth and Dallas, and all planes flying between these two airports shall keep at least 1 mile to the right of the beacon course except during takeoffs and landings.

Instrument or Over-the-Top Flights

1. Before clearing a plane for instrument or over-the-top flight between Fort Worth and Dallas the operator shall contact all other operators, regularly using this airway, to make sure that the plane will not in any way jeopardize the safety of a plane, which is already in flight.
2. Takeoffs from Fort Worth or Dallas shall conform to the following directions:
   (a) At Dallas the pilot shall continue his takeoff in a straight line from the runway until an altitude of 2000 feet has been reached, before turning in the prescribed direction and getting on the right side of the "On Course" signal of the Fort Worth radio range. Pilot shall keep to the right of the "On Course" signal and, if cleared to Fort Worth, maintain 2000 feet altitude until passing over the Fort Worth radio range station. If cleared westbound to a point beyond Fort Worth, the pilot shall keep to the right of, and off, the "On Course" signal of the Fort Worth radio range until an altitude of 3000 feet or higher odd foot altitude level has been reached.
   (b) At Fort Worth the pilot shall continue his takeoff in a straight line from the runway until an altitude of 1500 feet has been reached before turning in the prescribed direction to get on the right side of the Fort Worth radio range course toward Dallas,

unless a turn is necessary before this altitude is reached in order to avoid passing north of the center of the Fort Worth radio range course to Dallas. Pilots shall keep well to the right of, and off the "On Course" signal to Dallas and maintain an altitude of 1500 feet until passing over the field at Dallas. If flight is cleared eastbound to a point beyond Dallas, the pilot shall keep to the right of, and off the "On Course" signal until an altitude of 4000 feet, or higher even thousand foot altitude, has been reached.

3. Pilots not flying at a constant altitude will report whether they are climbing or descending, and if practicable, state the altitude at which they will again resume normal level flight. When necessary to vary from the stated level, it will be the duty of the pilot to immediately communicate with ground stations informing them of the conditions encountered, and his intended action.
4. Planes letting down through an overcast at a terminal field may fly directly on the on-course signal of the beacon to facilitate locating the dead-spot. Planes departing from a terminal to pull up through an overcast must definitely keep off course on the right-hand side.
5. Planes shall not fly closer than 10 miles to an airway when flying on the left-hand side of the airway. (When doing contact flying but in and out of broken clouds, planes must keep on the right side of the radio beam.)
6. When necessary for pilots to cut across an airway in order to get on the right-hand side, the airway shall be crossed at an angle of *not less* than 45° in order to get on the right side of the airway as quickly as possible.

Special Notes

1. This recommended agreement is made temporarily pending installation of adequate and regulated control towers and equipment at both Dallas and Fort Worth, at which time amendments to the foregoing agreement will be in order.
2. It will be noted that a special deviation is made in the odd and even thousand foot altitude when on instruments between these two points; this is a peculiar local condition, due to the fact that no localizer for coming down through at Dallas is provided. The minimum altitude for instrument flying shall be at least 1000 feet above the ground or ground obstructions and in order to permit schedules to descend down to 1000 feet or above and breaking out into the open without violating this provision. This would effect some time saving to the operator; otherwise, it would necessitate proceeding to Fort Worth and letting down under, then returning to Dallas to load or discharge cargo. This special dispensation shall apply only to the Dallas area, and until such time as a localizer is provided.

BUREAU OF AIR COMMERCE JOINT CONFERENCE, JANUARY 6-8

The Joint Conference with representatives of air lines, air line pilots, approved school operators, charter and miscellaneous operators, private aircraft owners, pilots, airport managers, State aviation officials, Supervising Aeronautical Inspectors and personnel of the Washington Office, was held in Washington on January 6, 7 and 8, 1936.

The Meeting was called to order at 8:30 A. M. by Colonel J. Carroll Cone, Assistant Director in Charge of Air Regulation, who outlined the following list of subjects to be discussed:

1. Air Traffic Control
2. Instrument Ratings
3. Instructors' Ratings
4. Special Student Licenses
5. Licensing of Test Pilots and Airport Managers
6. Any other matters suggested by Supervisors or others present.

The results of the discussions on these subjects and the general recommendations made are as follows:

Air Traffic Control. The question of Air Traffic Control was discussed at length and, inasmuch as this problem was of paramount interest to most of those present, Colonel Cone outlined in a general way the necessity for some form of temporary immediate control until the matter could be given further thought and the advice and recommendations of all interested persons could be obtained.

The Bureau's problems in this matter, particularly the difficulty of handling such traffic control without adequate personnel, equipment and facilities, was also explained, and the meeting was then turned over to Major Schroeder who discussed in detail the provisions of the present precautionary measure to pilots and operators, dated November 16, 1935, and the problems of traffic control affecting the air lines, such as inter-air line agreements and the operation of airport control towers.

A general discussion followed in which the various problems, solutions and recommendations of the representatives present were made.

Although a number of definite, worth while recommendations concerning the requirements, procedure and operation of such control were made, which will probably be included in the final Regulations when approved, it was finally decided that present activities should be devoted to a simplification of the temporary intentional instrument flight regulations, and that a definite, detailed air traffic control system would necessarily have to be deferred until such time as the Bureau of Air Commerce could furnish the necessary equipment and personnel to satisfactorily handle such traffic.

In connection with the simplification of the temporary air traffic control regulations, Supervisors were instructed to call local Conferences, at suitable places in their various Districts, with representatives of all phases of the industry interested and submit their recommendations of privileges and restrictions of control which will fit the particular needs of the various locations, and which should be satisfactory to all concerned.

As these recommendations are submitted and approved, the general regulations will be amended from time to time in order to incorporate the various special requirements which may be necessary in the Districts.

Instrument Ratings. Along with the necessity for air traffic control, an instrument rating for other than air line pilots will become necessary. Although there is not sufficient demand, aside from controlled traffic requirements, to justify such a rating, we do not believe that the privileges, restrictions and requirements for such rating will be complicated. It was proposed at this Conference that, basically, to be eligible for this rating a pilot must have a minimum of 200 solo hours; be required to have received a minimum of 20 hours instrument flying instruction and satisfactorily accomplish a modified SAT rating test on radio and instrument flying.

It was also suggested that this rating be limited to pilots who do not carry waivers for physical defects, at least until actual operations under the provisions of the rating can be studied and further recommendations made.

Special Student License. On the question of eliminating the physical requirements for pilot license, at least through the dual instruction stage, there were divided opinions and the following suggestions were made: (1) That no physical examination be required. (2) That a physical certificate from any physician should be accepted. (3) That the Federal Government pay the medical examiners. (4) That the Army and Navy flight surgeons be instructed to conduct the physical examinations, and (5) That the fee for the present physical examination be further reduced.

It was thought generally that a reduction in the present medical fees or physical standards would result in an immediate increase in the number of students enrolling for flight instruction, but there was also an idea that any reduction in the physical standard might be misunderstood by the public and that there might be an unfavorable reaction toward aviation as a whole on the part of those students who invested time and money in a course of dual instruction, or any allowed solo flying, and later discover that they are not physically qualified for the passenger carrying grade of license. This will be discussed with the Medical Section and referred to the Aero. Medical Association for their recommendations.

Mechanic's License. On the question of proposed changes in the present method of licensing mechanics, it was generally agreed that the present requirements be continued until such time as personnel and equipment could be provided to adequately handle the proposed new recommendations.

In the meantime, it is believed that Bulletin 7-H, governing alterations and repairs to licensed aircraft, will serve to simplify and classify the various types of repairs necessary, so that present difficulties will be eliminated to a great extent. In addition, various manufacturers of aircraft, engines and accessories will be requested to issue service memoranda, bulletins and instruction manuals, which may be disseminated to repair agencies, aircraft owners and licensed mechanics for their information and use.

Approved Mechanics' Schools. Until the changes in the licensing of mechanics are made, no permanent requirements can be adopted for the approval of airplane and engine mechanics' schools, and therefore the policy of temporarily approving these schools will be continued. New applicants will be required to meet the equipment requirements of approved repair stations, as well as the standards of personnel, facilities and curriculum, and present schools will be rechecked against these requirements.

Licensing of Home-built Aircraft. When the suggestion for the proposed licensing of home-built aircraft was brought up it was unanimously agreed that such aircraft should not be licensed and that if such requirements were to be included in the Regulations, they should be submitted to the State aviation officials for their recommendations, as a matter pertaining particularly to State rights.

Licensing of Parachute Jumpers. On the proposal for the licensing of parachute jumpers it was felt that there was not sufficient demand for

such a license and that there should be no additional restrictions so long as the present regulations governing experimental, demonstration or exhibition parachute jumps were complied with. Also, the National Aeronautic Association is at present licensing professional parachute jumpers, which further eliminates any pressing need for such license.

Licensing of Test Pilots. On the proposal for the licensing of test pilots, no immediate necessity was seen for such license and it was suggested that the test pilots create their own association to protect their interests, if desired.

Instructor's and Airport Manager's License. The licensing of instructors and airport managers was not considered necessary and no detailed discussions were entered into.

SENATE SUBCOMMITTEE HEARINGS

The United States Senate Subcommittee on Aircraft Investigation[1] started its hearings on February 10-15, and, at the time this issue goes to press, is continuing the hearings through several days in March. Printed copies of the evidence will be available at a later date.

The hearings on Monday and Tuesday were open to the public and dealt largely with the immediate safety needs of the aviation industry. The hearings on Thursday, Friday and Saturday were mainly closed sessions and related to the airline accident in Missouri, and to certain matters pertaining to the Bureau of Air Commerce.

Recommendations, legislative and otherwise, will probably be presented for consideration some time in April or May.

AIR COMMERCE REGULATION VIOLATIONS

On January 23, 1936, the Bureau of Air Commerce announced that nearly half of the fatalities in miscellaneous flying operations during the first half of 1935 occurred in flights which violated federal air commerce regulations, as follows:

Of 124 fatalities in miscellaneous, commercial and private operations (or in other words, all civilian flying except that of scheduled air lines) during that period, 56 resulted from accidents in flights which were contrary to regulations. Illegal acrobatics contributed to the death or fatal injury in airplane accidents of 15 pilots, 3 student pilots and 4 passengers.

The 56 fatalities occurred in 37 fatal accidents, each of which violated one or more provisions of the regulations, as follows:

	Fatal Accidents
Illegal acrobatics	8
Illegal acrobatics and low flying	4
Illegal acrobatics and licensed pilots flying unlicensed aircraft	2
Illegal acrobatics, low flying and other violations	2
Low flying	4
Low flying and miscellaneous violations	4
Unlicensed pilot flying licensed aircraft	1
Licensed pilot flying aircraft with expired license	1
Miscellaneous	11

1. For an earlier account of the Subcommittee, see 6 JOURNAL OF AIR LAW 601 (1935).

The eleven fatal accidents listed under "miscellaneous" involved a total of 16 different violations, including students carrying passengers, 4; overloading, 1; instructing an unlicensed student, 1; incompetency and performance of acts contrary to public safety, 8; flying for hire in aircraft with expired license, 1; flying for hire outside of area authorized by license, 1.

Enforcement of federal regulations will be made possible in the future not so much by resort to suspensions and fines, as by enlisting the intelligent support of those who fly. Already there is a very definite movement on the part of those engaged in aviation to promote safe flying[1] and to actively discourage unsafe methods. The importance of the airport manager in this respect can not be over emphasized. However, until full cooperation on the part of all pilots has been obtained, there will be need for an occasional prosecution like the following:

"The first court case in a drive by the Bureau of Air Commerce to cut down on illegal carrying of passengers resulted recently in a suspended 90-day jail sentence for Walter Campbell of Wantagh, Long Island.

"Because state prosecution was much simpler than procedure under federal law, the complaint was lodged by a member of the state police. The charge was an infraction of the state law (which requires compliance with the federal regulations), and the sentence was passed by a Justice of the Peace presiding at a local police court, but it was none the less an action instigated by the New York representatives of the Bureau of Air Commerce as the opening of a drive on similar offenses.

"Campbell pleaded guilty to carrying an eleven year old boy as a passenger several months ago, although he held only a student's permit at the time. The violation was discovered when the plane cracked up near Roosevelt Field injuring both Campbell and the boy."[2]

SCHEDULED AIR TRANSPORT RATING: THE JOHNSON CASE

On January 27 and 28 the Bureau of Air Commerce held hearings at Minneapolis relative to one of the first cases involving the suspension and revocation of a transport pilot's S. A. T. rating. The hearing resulted from a request of Pilot Thorwald Johnson, employed by Hanford Air Lines, prior to final determination of his case by the Department of Commerce.

Pilot Johnson had two waivers issued to him for defective eyesight. One waiver dated January 27th, 1928, showed a right eye vision of 20/40, left eye 20/100, the left eye vision corrected to normal by goggles. The second waiver dated November 11, 1929, showed a right eye vision of 20/40, left eye vision of 20/200; the left eye vision corrected to 20/100 by goggles. In each case there was mention of defective depth perception.[1] On October 27, 1935, Mr. Johnson was informed that the Department inspector had requested permission to suspend his S. A. T. rating pending the satisfactory passing of flight check for the S. A. T. rating. He was also instructed to report to one of the Bureau medical examiners for a physical examination.[2]

1. Note, for example the "Safe Flying Campaign" inaugurated by the Stinson Aircraft Corporation for 1936, and the safety stickers used.
2. Reprinted from *Aviation*, February, 1936, p. 62.

1. See Department of Commerce Hearings—In the Matter of the Revocation of License of Thorwald Johnson, p. 38.
2. *Ibid.*, p. 3.

Another telegram dated November 8, 1935, sent by the Bureau of Air Commerce to Mr. Johnson, informed him that his transport license was revoked after the results of a physical examination taken on October 29th disclosed certain eye defects supposedly in excess of those covered by the waivers previously granted.[3] Thereafter Pilot Johnson requested the hearing mentioned.

Testimony of the various doctors appearing for the Government and for the petitioner differed somewhat as to the vision—particularly in Mr. Johnson's left eye, some stating the vision to be 20/100 uncorrected, and others 20/200 uncorrected. The testimony also showed an average depth perception of 60 millimeters instead of the required 30.[4] A strabismus condition was testified to by some, and disputed by other witnesses. One witness in behalf of the pilot testified that on one occasion (after the revocation of his license) Mr. Johnson had piloted a plane with the witness as a passenger at which time Pilot Johnson had made several landings and done considerable flying with the right lens of his goggles completely taped up so that he was using only the sight from his left eye—which would tend to prove that the vision in that eye was not as defective as had been indicated by some of the medical witnesses.[5] Johnson's flying technique was not in issue as the Bureau admitted that his performance in that respect was entirely satisfactory.[6] The real issue pertained solely to physical factors involved.

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3. *Ibid.*, p. 4.

4. *Ibid.*, p. 7. The requirements for pilot's physical qualifications, as provided in Section 50 of the Federal Air Commerce Regulations (effective as amended January 1, 1934) read as follows:

"The physical examinations provided for herein must be accomplished before the practical and theoretical tests will be given. The qualifications are as follows:

"(A) *Private, Amateur, Student, Commercial, Glider.*—Absence of organic or functional disease and of defects or structural defects or limitations which might interfere with safe handling of an aircraft under the conditions of private flying; visual acuity of at least 20/50 in each eye without correction and depth perception of not more than 30 mm without correction; or visual acuity of at least 20/30 with correcting lenses and depth perception of not more than 30 mm with such correcting lenses; no diplopia within an angle of 45°; normal visual fields; no organic disease of eye, internal ear, or mastoid; no abnormalities of equilibrium.

"(B) *Transport, Limited Commercial.*—Good past history; sound pulmonary, cardiovascular, gastrointestinal, central nervous, and genitourinary systems; freedom from material structural defects or limitations; freedom from disease of the ductless glands; normal central, peripheral, and color vision; normal judgment of distance; only slight defects of ocular muscle balance; freedom from ocular disease; absence of obstructive or diseased conditions of the ear, nose, and throat; no abnormalities of equilibrium.

"(C) *Lighter-Than-Air.*—Applicants for licenses as pilots or student pilots of lighter-than-air craft (airships and balloons, all types) will be subjected to the same physical examination and must meet the same physical standard as private aircraft (heavier-than-air) pilots, with the following exceptions:

"(1) All visual tests may be taken with correcting glasses if necessary.

"(2) No hernia will be considered disqualifying if adequately supported by a truss.

"(D) *Waivers.*—In the case of trained, experienced pilots, the Secretary of Commerce may grant waivers for physical defects designated as disqualifying by these regulations when, in his opinion, the experience of the pilot will compensate for the defect. A waiver once granted for any grade of license will hold indefinitely for that grade only so long as the defect for which it was granted has not increased or unless canceled by the Secretary of Commerce."

5. *Ibid.*, starting at p. 118

6. Relative to this point, note the letter from the Bureau inspector after a test flight made with Pilot Johnson, to the following effect:

"Chief, Air Line Inspection Service, Bureau of Air Commerce, Department of Commerce, Washington, D. C., Dear Sir: Attached file covers the case of Thorwald Johnson. As instructed in your telegram of October 25, 1935, Pilot Johnson's SAT rating sheet has been lifted. A flight test in hooded cockpit was also given, checked on schedule in Ford airplane NC-420-H. The pilot was flown in the overcast from Omaha, Nebraska, to within 25 miles of Kansas City. From this point a hood was attached over the pilot's portion of the cockpit and the pilot proceeded to come through the overcast into the Kansas City Radio Station, and let down into the airport to an altitude of about 150

The hearing was very ably and fairly conducted by Colonel J. Carroll Cone, Assistant Director for Air Regulation, of the Bureau of Air Commerce and, following the agreed twenty days, Assistant Secretary of Commerce, J. Monroe Johnson rendered the following decision:[7]

"Reference is made to the hearing held at Minneapolis, Minn., January 27, 1936, relative to the suspension of your S. A. T. rating (Scheduled Air Transport Rating), and the revocation of your transport pilot license, held pursuant to Section 3(f) of the Air Commerce Act of 1926, as amended.

"From the transcript of the record and the exhibits received in evidence at said hearing, I am of the opinion, and so decide, that your visual defects at the time of said suspension, revocation, and hearing, were increased beyond the percentage covered by your 1929 waiver, and that you are, therefore, not eligible for an S. A. T. rating or a transport pilot license."[8]

While the effect of this holding is such as to cause the pilot to seek other than active airline piloting employment, it is eminently sound in insisting upon the maintenance of safe minimum physical standards in the interest of public security. Any other decision would have militated against the growing public confidence in air travel.

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feet. From this point I took over the controls until the hood could be removed and the pilot continued a circle of the field and approached to a normal landing. The return flight to Omaha was after hours of darkness, leaving Kansas City at 10:25 p. m. Pilot Johnson handled this plane in a normal manner at all times and no criticism could be made of his method of handling the aircraft in flight, in landing, or handling on the ground. When the flight test in the Stearman plane was conducted, the Weather Bureau was reporting a 33 mile south wind with strong gusts. After one hour and thirty minutes of flying in this rough air, three approaches had been made down to an altitude of 200 feet on a direct line between the radio range station and the airport. On landing the pilot showed no sign of fatigue. It is recommended that the SAT rating be returned to Mr. Johnson. Very truly yours, Roy Keeley, Air Line Inspector."

7. As per letter dated February 21, 1936.

8. Section 3(f) of the Air Commerce Act of 1926, as amended, reads as follows:

(f) Issuance, suspension and revocation of certificates; procedure in case of denial, suspension or revocation; hearing; effect of decision. Provide for the issuance and expiration, and for the suspension and revocation of registration, aircraft, airline, and airman certificates, and such other certificates as the Secretary of Commerce deems necessary in administering the functions vested in him under this Act. The Secretary of Commerce shall not deny any application for an airline certificate or revoke or suspend any airline certificate, except for failure of the airline to comply with safety standards applicable to the operaton thereof, prescribed by the Secretary. Within 20 days after notice that application for any certificate is denied or that a certificate is suspended or revoked, the applicant or holder may file a written request with the Secretary of Commerce for a public hearing thereon. The Secretary upon receipt of the request shall forthwith (1) arrange for a public hearing to be held within 20 days after such receipt in such place as the Secretary deems most practicable and convenient in view of the place of residence of the applicant or holder and the place where evidence bearing on the cause for the denial, suspension, or revocation is most readily obtainable, and (2) give the applicant or holder at least ten days' notice of the hearing, unless an earlier hearing is consented to by him. Notice under this subdivision may be served personally upon the applicant or holder or sent him by registered mail. The Secretary, or any officer or employee of the Department of Commerce designated by him in writing for the purpose, may hold any such hearing and for the purposes thereof administer oaths, examine witnesses, and issue subpoenas for the attendance and testimony of witnesses, or the production of books, papers, documents, and other evidence, or the taking of depositions before any designated individual competent to administer oaths. Witnesses summoned or whose depositions are taken shall receive the same fees and mileage as witnesses in courts of the United States. All evidence taken at the hearing shall be recorded and forwarded to the Secretary for decision in the matter to be rendered not later than ten days after completion of the hearing. The decision of the Secretary, if in accordance with law, shall be final. The denial, suspension, or revocation shall be invalid unless opportunity for hearing is afforded, notice served or sent, and decision rendered within the respective times prescribed by this sub-division. Where the decision in such hearing is adverse to the applicant for hearing, such applicant shall pay to the Secretary of Commerce, to be covered into the Treasury as miscellaneous receipts, an amount equal to such portion of the costs of the hearing as the Secretary of Commerce may designate, and in any case the applicant may be required by the Secretary of Commerce to furnish bond, with such surety as he may approve, to cover all such costs before the matter is heard.

INTERNATIONAL REGULATION

C. I. T. E. J. A. MEETINGS AT THE HAGUE

An American delegation participated for the first time in sessions of the International Technical Committee of Aerial Legal Experts at The Hague—the sub-committee known as the Third Commission having met from September 20 to 23, 1935, inclusive, and the Tenth Plenary Session of the C. I. T. E. J. A. from September 24 to 27 inclusive. Participation by the Government of the United States was made possible by an Act of Congress,[1] although the United States has for several years kept in touch with the work which the C. I. T. E. J. A. has been doing to further the adoption of a uniform international code of private air law.

Dr. Richter, out-going President of the C. I. T. E. J. A., and Mr. Wolterbeek-Muller, newly elected President, made welcoming references to the American Delegation, which consisted of Stephen Latchford, Chairman, Howard Osterhout, James Hopkins Smith, Jr., and John J. Ide. Arthur L. Lebel was Secretary and Interpreter to the American Delegation.

The recent report of the Delegation to the Secretary of State of the United States announces that the purpose of the sessions of the Third Commission was to consider certain questions relating to aviation insurance that have delayed ratification of the Convention for the Unification of Certain Rules Relating to Damages Caused by Aircraft to Third Parties on the Surface. signed at Rome, Italy, on May 29, 1933,[2] during the Third International Conference on Private Aerial Law. This convention, which was signed on behalf of the United States and twenty other countries and which has not so far been generally ratified, is based upon the principle of absolute liability for damages caused by aircraft to persons and property on the surface, through the falling of the aircraft or objects therefrom, with the right, however, of the operator of the aircraft to claim, subject to certain conditions, a limitation of his liability so that he may not be held responsible for damages beyond the amounts fixed by the convention. The discussions of the Third Commission related especially to articles 12 and 14 of the Rome Convention which are as follows:

"ARTICLE 12. Any aircraft entered on the register of a territory of one High Contracting Party, in order to navigate above the territory of another High Contracting Party, must be insured against the damages considered in the present convention, within the limits determined in Article 8 above, with a public insurance institution or an insurer authorized for this risk in the territory of the registry of the aircraft.

(2) The domestic legislation of any High Contracting Party may substitute for the insurance, wholly or in part, another guarantee for the risks considered in the present Convention:

(a) in the form of a cash deposit made in a public fund of a bank authorized for this purpose in the territory of registry of the aircraft;

(b) in the form of a guarantee given by a bank authorized for this purpose in the territory of the registry of the aircraft. Said cash deposit and said guarantee must be brought up to their full amount as soon as

1. 6 JOURNAL OF AIR LAW 618 (1935).
2. For text, see 4 JOURNAL OF AIR LAW 567 (1933).

the sums which they represent become subject to reduction by the amount of a payment for compensation.

(3) The insurance, the cash deposit and the bank guarantee must be especially and preferentially assigned to payment of the compensations due on account of the damages contemplated in the present Convention.

ARTICLE 14. The operator shall not be entitled to avail himself of the provisions of the present Convention which limit his liability:

(a) if it is proved that the damage was caused by gross negligence or wilful misconduct on the part of the operator and his agents, unless the operator proves that the damage was due to an error in piloting, operation or navigation. or, in a matter affecting his agents, that he has taken all the proper measures to prevent the damage.

(b) if he has not furnished one of the sureties prescribed in the present Convention, or if the sureties furnished are not in force or do not cover the operator's liability for the damage caused within the terms and limits of the present Convention."

The minutes of the Rome Conference of May, 1933, show that a controversy arose over the insurance provisions of the Rome Convention as to whether the insurance to be provided for aircraft should apply where third parties on the surface were concerned without exception whenever damage was caused, or whether certain exceptions to the payment of insurance claims should be granted to the insurers. The result was that a compromise was agreed upon in order to permit of the signing of the convention. The substance of this compromise is shown in Paragraph (b) of Article 14 of the Rome Convention, which paragraph provides that if the operator has not furnished one of the sureties prescribed in the convention, or if the sureties furnished are not in force or do not cover the operator's liability for the damage caused within the terms and limits of the convention, the operator shall not be entitled to avail himself of the provisions of the convention which limit his liability.

It was recognized during the Rome Conference that the insurance provisions of the convention would require further consideration and the Conference adopted a resolution calling upon the C. I. T. E. J. A. to make a study of the question of insurance as applied to damages caused by aircraft to persons and property on the surface, with a view to arriving at a uniform international regulation of the subject. It became apparent after the signature of the Rome Convention that the insurance underwriters would oppose the ratification of the convention if expected to issue incontestable policies of insurance and if deprived of the right to interpose certain defenses in the assumption of the risks, in accordance with the general practice of insuring, particularly in view of the comparatively small volume of aviation insurance available to them at this time.

The objections of the aviation insurance underwriters led to a consideration of the question whether Article 12 of the Rome Convention can be interpreted to permit the insurer to interpose certain defenses against the injured third party's claim. The immediate question before the Third Commission when it convened on September 20, 1935, was the consideration of C. I. T. E. J. A. Document No. 260 submitted by the British delegation, permitting the insurers to avail themselves of certain defenses, which in part reads as follows:

The C. I. T. E. J. A. * * * is of the following opinion:

1. In order to comply with the provisions of Articles 12 and 14 of the Rome Convention for the unification of certain rules relating to damages caused to third parties on the surface, it should be provided that the insurer, in order to defeat a claim submitted by an injured third party under the terms of the provisions of the said Convention, can only set up, in addition to the defenses available to the operator, one or more of the following defenses:
   (a) That, at the time when the damage was suffered, the insurer's obligation had been terminated by lapse of time;
   (b) That the damage occurred outside of the territorial limits provided for by the insurance contract; provided that the flight beyond these limits was not caused by *force majeure* or the obligation to assist;
   (c) That, at the beginning of the flight, there was no valid certificate of airworthiness for the aircraft;
   (d) That the personnel indispensable for the operation of the aircraft did not hold valid licenses;
   (e) That the insurance contract was induced by fraudulent representations on points bearing a direct causal relation to the damage caused; stipulations which the operator shall have violated without just cause shall be considered the same as fraudulent representations.
   (e bis) That the insurance contract has been induced by fraudulent representations relating to the flying personnel, if the damage caused has been the direct consequence of the facts misrepresented (German suggestion).
2. (a) The obligation of the insurer shall be deemed to have been terminated upon the date fixed by the insurance contract for its own normal termination or upon the date fixed by an anticipatory denunciation, provided, however, that notice of either one of these dates, according to the cases, shall have been sent in due time by the insurer to the insured as well as to the competent authority of the State in whose territory the aircraft is registered.
   (b) In order to be deemed to have been sent in due time, the notice must have been sent before the normal expiration date of the contract or the date provided for by the denunciation, within a period of time which shall not be less than thirty days nor more than sixty days.
   (c) If the notice is delayed, the time during which the insurer shall remain liable shall be extended by a period of time equal to such delay.
   (d) A premature notice shall remain without effect.
   (e) If the operator has entered into another and valid insurance contract, the extended liability of the first insurer shall cease upon the effective date of the new contract.
3. The C. I. T. E. J. A. is also of the opinion that when the guaranty for risks shall have taken the form of a bank guaranty, the bank must be able to set up, as against the injured third party, only those defenses which are available to the insurer.

The Third Commission gave a hearing to representatives of the International Union of Aviation Insurers (I. U. A. I.). The main objections presented on behalf of the I. U. A. I. against document No. 260 appeared to be two: First, the extension in time of the insurer's obligation, and, Second, the lack of clarity as to his right of recourse against the operator. With respect to the first objection the insurers contended that the extension

of time would prevent an insurance company from escaping from its obligation, by means of anticipatory denunciation of the policy, within a reasonable period. They asked specifically to have the time shortened from thirty to fifteen days. The insurance group was informed that this matter would be considered by the C. I. T. E. J. A. at its Plenary Session. In answer to the second objection the Commission took the position that the right of subrogation was a matter to be dealt with under the national law rather than international law. A discussion then followed of the remaining defenses, and some new ones proposed by the I. U. A. I.

In the course of the discussions the American delegation stated that very little damage had been done to third parties on the surface, and that, possibly, the I. U. A. I. was overemphasizing the additional risks to which the insurers might be subjected. This statement was not one of mere opinion. but was amply substantiated by the records of both commercial and private flying. as well as by the extreme scarcity of cases in tort in which such a third party was suing for damages resulting from a flight. Shortly after this, the representative of Lloyd's Insurance stated that that organization would be willing to accept the additional risks, at a moderate increase in premium, even without the defenses enumerated in Document No. 260.

The Third Commission gave considerable time to the views of the International Air Traffic Association (I. A. T. A.), an organization of European transport operators. The I. A. T. A was concerned mainly in the increase in premiums which had now bcome a definite possibility American air transport operators were not represented by the I. A. T. A.. and it may be that their viewpoint is not necessarily the same as that of the I. A. T. A.

The Report continues to state that on the afternoon of September 21 the Third Commission held a meeting without representatives of the insurers or the operators being present, to consider the statements made on behalf of the I. U. A. I. and the I. A. T. A. concerning Document No. 260, and Document No. 266. a proposal made by the Danish expert as a substitute for Document No. 260. Document No. 266 contained the following proposal with respect to the obligations of the insurer:

> The insurance company shall remain liable for all damage which occurred during 15 days (or the month) following the expiration of the insurance contract, unless the operator shall have entered into another legal insurance contract. In case the insurance contract shall expire before the competent authorities are aware thereof, the said period of fifteen days (or of a month) shall begin to run on the date upon which the competent authorities shall have been so informed. However, the liability of the insurer shall cease immediately, if the aircraft is stricken from navigation register. [alternate translation:—if the registration of the aircraft has been cancelled].

The result of the discussion was the the final adoption by the Third Commission of Document No. 273 which, in effect, embodied parts of Documents 260 and 266 and included the principle, advocated by the Danish expert of requiring insurance coverage for a reasonable time beyond the actual expiration date of the insurance contract.

The question of primary importance considered by the Third Commission before it adjourned was whether the air transport operator would be subject to unlimited liability when one of the defenses available under Document No. 273 could be invoked by the insurer. There was a divergence

of views on this question which depended upon the interpretation of section (b) of Article 14 of the Rome Convention of 1933. It was decided that, if the air transport operator did not carry valid insurance, he would not be able to avail himself of the provisions of the Rome Convention which limited his liability, and that he would be subject to unlimited liability for damages to persons and property on the surface.

The first matter dealt with in the Plenary Session of the C. I. T. E. J. A. was the subject of insurance as passed upon by the Third Commission, Document 273. With a few changes this became C. I. T. E. J. A. Document No. 275, the main part of which is as follows:

In order to facilitate the application of uniform conditions relative to insurance of liability toward third parties, it would be necessary for the Contracting Governments, through an understanding to be reached among themselves beforehand, to legislate[3] that insurance, as prescribed in Article 12 of the Convention [of May 29, 1933], must be concluded under such conditions that the insurer, in addition to the defenses available to the operator, and without prejudice to any recourse which he may have against the insured, may set up, against claims based upon the application of the said Convention, only the following defenses:

(a) The damage occurred after the expiration of the period of time provided for the duration of the insurance.

However, the obligation of the insurer shall continue until the first landing of the aircraft at one of the airdromes where the insurance certificate can be checked.

In all cases where the insurance contract shall expire before the date fixed for its duration, the obligation of the insurer will be continued up to the day upon which the insurance certificate shall have been withdrawn by the competent authority, provided that such a period of time shall not exceed the fifteenth day after said authority shall have been advised by the insurer.

(b) The damage occurred outside of the territorial limits provided for by the insurance contract, unless the flight beyond these limits shall have been caused by *force majeure*, the fact of assistance justified by circumstances, or a mistake of pilotage, operation or navigation.

(c) At the time when the damage occurred, there was no certificate of airworthiness in existence for the aircraft.

(d) Through the negligence of the operator, there was not on board the aircraft, at the time the damage occurred, the personnel required by the regulations.

(e) The damage was caused by the voluntary participation of the operator, or of his employees, in operations of war or in civil disturbances.

The Plenary Session also considered two proposed draft conventions, one relating to assistance and salvage of aircraft, which in revised form is C. I. T. E. J. A. Document No. 276, and the other relating to aerial collisions, which in revised form is C. I. T. E. J. A. Document No. 277.

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3. Since the C. I. T. E. J. A. has no legislative function, the question arose as to how Document No. 273 might be given effect by the various countries, in connection with the possible ratification of the Rome Convention. It was generally agreed that the conclusions of the C. I. T. E. J. A. would constitute merely a recommendation to the governments ratifying the Rome Convention that they adopt the provisions of Document No. 273 in their national laws, in ratifying the Rome Convention. It was explained, on behalf of the American delegation, that should the Government of the United States decide to ratify the Rome Convention, it would be possible for the American members of the C. I. T. E. J. A. to recommend that it do so subject to reservations which would include the various defenses permitted to the insurers, as outlined in Document No. 273. It may be, however, that should the Rome Convention be ratified by the United States it would be necessary to adopt legislation implementing the Convention and any reservations made in ratifying it.

The draft salvage convention as revised at The Hague to apply to salvage at sea and the revised convention on collisions will be examined again at the next Plenary Session of the C. I. T. E. J. A. after which they will be referred to a diplomatic conference for final adoption and signature. It will be necessary to prepare a new draft convention on the question of salvage on land before the matter can be again considered by the full Committee. This, it is understood, will be undertaken by the sub-committee known as the Third Commission. According to present plans the next sessions of the Commissions will be held about February, 1936, and the next Plenary Session of the Committee about September, 1936. It was the general view that it might be possible to hold the next diplomatic conference on private air law sometime in 1937.

MARGARET LAMBIE[4]

C. I. T. E. J. A. MEETING IN PARIS, FEBRUARY, 1936

Representatives of all four commissions of the International Technical Committee of Aerial Legal Experts met in Paris during the period from February 24-26 to consider the following subjects and reports:

First Commission—Report by Mr. de la Pradelle on the interpretation of air conventions.

Second Commission—Report by Mr. Cogliolo on the charter of aircraft.

Third Commission—The question of assistance to and salvage of aircraft on land, and the report of Mr. Ambrosini on the extent of liability of the operator of aircraft.

Fourth Commission—Report by Mr. Babinski on the juridical status of the aircraft crew.[1]

Delegates from the United States included the following:

STEPHEN LATCHFORD, Member of the C. I. T. E. J. A.

ARNOLD W. KNAUTH. Member of the Advisory Committee for the American Section of the C. I. T. E. J. A., representing the Maritime Law Association of the United States.

ARTHUR L. LEBEL, Secretary and Interpreter to the American delegation.

C. I. T. E. J. A. DRAFT CONVENTION RELATING TO THE LEGAL STATUS OF AERONAUTICAL FLYING PERSONNEL[1]

After the Commission's discussion, on May 22 and 23, 1935, the Reporter was assigned the duty of preparing a new wording for the preliminary draft of convention relative to the legal status of flying personnel. Since then, the draft and the very idea of international regulations on the above-mentioned problems have been the subject of persistent criticisms on the part of the I. A. T. A. (August, 1935); however, the members of the C. I. T. E. J. A., who assembled in plenary session at The Hague, in September, 1935, did not change the instructions which they had also given to the Reporter, and the latter must therefore continue his studies and carry out his report of the program of that inter-Governmental organization which is the C. I. T. E. J. A., it being expected that later on the draft will be changed into

4. Of the District of Columbia Bar.

1. This draft was submitted in January, 1936, by Mr. Leon Babinski, Reporter for the Fourth Commission for consideration of the group at the Paris Meeting in February. (C. I. T. E. J. A. Document No. 283.)

international conventions—a phase of which neither the Reporter nor the C. I. T. E. J. A. have to decide, since the calling of meetings and the agenda of diplomatic conferences do not come under their jurisdiction.

That being the case, it is well to note that the general arrangement of the preliminary draft was not changed at the time of the last discussions in the Fourth Commission, in May, 1935. Before, as today, the Reporter was well aware of the difficulty involved in this draft, in preserving the necessary field of action for the national regulations of each Government. All the Experts agreed, at the time of the discussion, on the 22nd of last May, that the draft must contain only elements actually important for international air navigation, often in the form of a few general principles (see page 16 of the Minutes, Mr. Ripert's speech).

The above-mentioned remark, together with the previous finding that the general arrangement of the draft did not have to be changed, are suf ficient to authorize the Reporter not to go over the general statement of reasons for the draft again. Therefore, as regards the explanation of the ideas which are the basis of the draft, the Reporter refers to his previous comments, particularly in Document No. 246 (Preliminary draft presented for the meeting of May, 1935), and Document No. 255 (Minutes of the meeting of May, 1935).

On the other hand, the Reporter will endeavor to offer a few brief explanations in regard to each article of the draft:

Article 1. By flying personnel, in the sense of this convention, shall be meant any person employed or hired in any capacity whatsoever, for the service of an aircraft in flight, with the exception of persons who are on board under special contracts.[2]

Comment. The idea of this article is to have the provisions of the convention cover as great a number as possible of the persons employed in the aeronautical service for the services on board aircraft in flight. In this manner, not only the pilots, mechanics, radio operators, et cetera, come under the definition, but also the auxiliary personnel, such as stewards, barmen, et cetera. Only such persons as have a special assignment to carry out are excepted, such as scientific missions, it being very clear that the work of the said persons requires special contracts with them. As to the commander, the question as to whether he must be subject to the provisions of the convention has been reserved. The majority of the Commission seems to be of that opinion, which would necessitate combining the two drafts of conventions—that on the legal status of the commander (already prepared) and the present preliminary draft. The personal opinion of the Reporter is against combining.

Article 2. The legal status of the flying personnel, in all respects not regulated directly by this Convention shall be subject to the national laws of the aircraft.

Comment. The rule in Article 2 clearly sets out the fundamental idea

2. The question as to whether the aircraft commander should not be excluded from this definition has been reserved. It will depend upon the final decision as to whether the draft of convention on the legal status of the aircraft commander will be kept separate or combined with this draft.

that, in principle, the contract of hire continues to be governed by the respective national legislation, that is, those of the registration Governments of the aircraft (or aircrafts in the case of a large operating company having a great number of airplanes). In the opinion of the Reporter and of the Commission there are, however, a few principles of international importance which it might be advisable and expedient to have transformed into stipulations for an international convention.

Article 3. Subject to the application of provisions of a public character, in the territorial legislation, the contract of hire for the flying personnel shall, for the requirements governing the making thereof, be subject to the national legislation of the aircraft (or aircrafts) for whose services the personnel is hired.

Comment. Article 3 develops the fundamental idea of the preceding article, as concerns the conditions for the making of the contract of hire, in other words, all the details of its inception and its carrying out. This field of application of the national legislation of the registration Government of the aircraft must, however, come after territorial requirements of a public character.

Article 4. The contract of hire must be in writing and must contain the following clauses:

1. **The names and surnames of the parties, their nationality and domicile.**
2. **The place and date of the contract.**
3. **The service to which the person hired is to be assigned.**
4. **The date for the beginning of the service.**
5. **The amount of salary.**
6. **The duration of the employment.**

Furthermore, the national legislations may require the inclusion of other compulsory matters in the contract of hire.

Each person must receive a document evidencing his services on board by virtue of a contract of hire.

Comment. Article 4 is an international standard for the terms of a contract of hire. The view of the Commission was that it is undoubtedly possible to fix these rules uniformly for all the Governments, as a minimum, thus making a considerable step forward toward the standardization of air law. The Governments are free to add other rules to this minimum, if they find it indispensable to do so. After a long discussion, the Commission agreed to impose a written form for such terms of contract for hire. In order to safeguard the interests of the personnel, it is required that each party to the contract should receive a document evidencing this presence on board. This document will not necessarily be a copy of the contract.

Article 5. In case of necessity, the commander of the aircraft may order any member of the flying personnel to perform a service other than that for which he was hired.

Comment. This rule is based on concern for safety of air voyages, and, as it constitutes at the same time a derogation to the ordinary clauses of the contract, it is necessary to mention this in the convention and thus to insure it international authority.

Article 6. Any contract of hire for a definite duration which terminates during the course of a voyage shall be extended up to the next stop of the aircraft.

Comment. It appears necessary not to have the contract of hire expire during the course of a voyage. Otherwise, considerable interests would be jeopardized from the standpoint of the flying personnel (social standpoint) as well as that of the carriers and travelers. This explains the international scope of the rule proposed.

Article 7. If the contract of hire is for an indefinite duration, the requirements as to notice must be the same for both parties to the contract.

Comment. As regards contracts with an indefinite duration, it is not possible to work out a similar rule; in spite of the fact that the rule is the basis for any contract in the aeronautical service, its proper place is in the contract. The only thing which might be retained in that respect, and drafted in the form of an article for an international convention is the desire to place the operator and the hired persons on equal terms with respect to the requirements of notice.

Article 8. Notwithstanding the conditions stipulated in the contract of hire as to the termination thereof, it shall be terminated as a matter of right in the following cases:

1. **Death of the person hired.**
2. **Loss or unseaworthiness of the aircraft, when the person was hired for that craft.**
3. **Any other cause stipulated by the national legislation of the aircraft.**

Comment. It is important to know what are the conditions under which a contract of hire can be terminated as a matter of right, in all countries, in order that, when the occasion arises, the continuation of the air voyage may not depend upon misunderstanding.

Article 9. The national laws must contain provisions guaranteeing risks of accident, particularly those of death or permanent or temporary disability of the flying personnel, whatever may be the nationality of the victim or the place of the accident.

Comment. The purpose of this Article was inspired by humanitarian considerations and the particular dangers of that kind of work. It is to introduce into air law the idea of compulsory insurance of the personnel against risks of accident—particularly, death and disability. It appeared to be somewhat early, in the mind of the Commission, to have uniform international obligations in this respect; but, in order to preserve the idea, the Commission agreed to call upon the national legislations by requiring everywhere the preparation of positive legal rules relating thereto. The competent legislation is that of the registration Government of the aircraft.

Article 10. The territorial legislations must insure an unattachable minimum of the salary of the flying personnel.

Comment. The same system of reliance upon national legislations is also the basis for Article 10. The same humanitarian reasons lead to the request for a certain degree of unattachability of the wages of the flying personnel. However, in conformity with practice in international law, the

competent legislation in this case will not be legislation of the registration Government of the aircraft, but territorial legislation.

Article 11. Subject to the obligation to repatriate, the operator and the commander of the aircraft shall have the right to disembark any member of the flying personnel at the first stop, where there is a posssibility of repatriation.

Comment. The necessity for the craft owner to have perfect confidence in the person of each member of the crew led to creating the right for the operator or the commander to eliminate, during the course of a voyage, any one of such crew whose conduct might occasion uneasiness. It is a measure of prudence in a certain sense, a measure of policy, which has no influence on the civil contract feature. The worker is protected against the far too severe strictness of this rule by a guarantee that he will be disembarked only in a place where he will find the possibility of repatriation, through the repatriation fund.

Article 12. The national legislation of the aircraft shall determine the circumstances in which the operator or the commander of the aircraft shall have the right to dismiss a member of the personnel without notice; the same legislation shall apply to the causes for which a member of the flying personnel may demand his own immediate disembarkation.

Comment. This Article, contrary to what was decided in Article 11, deals with the immediate denunciation of a contract for hire, that is, we have in mind the civil contract feature. This right is given to both parties to the contract, the convention confines itself to fixing the general rule, and to placing all the details under the legislation of the registration Government of the aircraft.

Article 13. Any member of the flying personnel, disembarked during the life or upon termination of his contract, shall have the right to be repatriated, taking account, however, of the duration of the services rendered by him to the operator under the terms of the contract of hire. Actual repatriation may be replaced by the payment to the Consul of the person in question of a sum of money required to cover the costs of repatriation.

Comment. This Article and the following one deal with the important question of repatriation. The text is based on maritime law and takes account of the fact that aerial voyages are very often voyages in very remote countries; the convention imposes the obligation of repatriation. This obligation is tempered, however, by two features: (a) if a worker is hired abroad, he cannot ask for repatriation into his country of origin, and account must be taken of the duration of the services rendered by him to the operators; (b) repatriation must not be a source of unjust enrichment. The money is given only for actual repatriation; and if the individual remains abroad, where he was debarked he loses the right to the money for repatriation. In order to maintain supervision in this respect, it is prescribed that the money intended to replace actual repatriation must be paid in to the Consul.

Article 14. The costs of repatriation may not be imposed upon the person repatriated, except in cases where the causes of dismissal, according to the legislation applicable to the contract of hire, are imputable to the person repatriated.

Comment. The Article in question provides for an exception to the general rule that repatriation is made at the cost of the craft owner, particularly in the case where the worker himself would be at fault with respect to the execution of the contract, and the legislation under which the contract is made authorizes having him suffer the consequences of his default. The general rule, repeated at the beginning of the article, imposes the cost of repatriation upon the operator.

Article 15. The members of the flying personnel can, in no case, load goods on the aircraft for their own account.

Comment. Reasons of discipline and good order on board the aircraft require that the personnel be prohibited from carrying on transportation business for its own account. The rule has been taken from maritime law.

Article 16. The following shall have jurisdiction to settle litigation relative to the contract of hire:

1. **The courts appointed by the legislation of the registration Government of the aircraft.**
2. **The courts appointed by the legislation of the Government where the contract was entered into.**

The legislation of the jurisdiction taking cognizance of a case shall determine its procedure.

Comment. The rules of jurisdiction to try possible disputes relating to contracts of hire have been inspired, in a certain measure, by previous works of the C. I. T. E. J. A., but they also take account of the special character of the rules in this draft. It is thus that we arrive in approving two concurrent jurisdictions: That of the registration government of the aircraft, whose laws have a very preponderant influence on all that comes under this convention and that of the Government where the contract was entered into; this is an international rule of jurisdiction based on private international law.

Article 17. The competent authorities of all the contracting Governments will extend to each other mutual aid and assistance in connection with the application of this convention. They may correspond directly with each other, using for their correspondence, their own language, with a translation into one of the following languages: German, English, French, Italian.

Comment. This Article contains certain rules on mutual help concerning the laws and the convention. These rules seem to be useful for the purpose of executing and applying this convention.

Article 18. When this convention uses the expression "national legislation (of the aircraft)", it is clearly understood that this shall mean the legislation of the Government where the aircraft is registered; when it uses the expresssion "territorial legislation," it shall be clearly understood that this means the legislation of the place where the event occurred or of the authority taking cognizance.

Comment. This Article states the exact meaning of the two main expressions used in the convention: National legislation and territorial legislation.

Article 19. (Reserved). This convention shall apply only to the aeronautical flying personnel hired on aircrafts operated commercially.

Comment. The question as to whether the convention must apply exclusively to commercial air navigation, or, in general, to the personnel of aircraft is left pending. The Reporter continues to support the first suggestion. He believes that the proposed regulation, which will necessarily be rather complicated, does not lend itself to application to private operators.

NEW MEMBERS OF ADVISORY COMMITTEE TO AMERICAN SECTION OF C.I.T.E.J.A.

The following designations have been recently made for service on the Advisory Committee to the American Section:[1]

(1) *Institute of Aeronautical Sciences*

HAMPTON D. EWING, Chrysler Building, New York. Mr. Ewing was formerly the alternate member representing the National Aeronautic Association.

GLEN L. MARTIN, alternate member. President, and Chairman of the Board, Glen L. Martin Co., Baltimore, Maryland.

(2) *Private Fliers Association, Inc.*

WILLIAM W. BRINCKERHOFF, 96 Wall Street, New York City, New York.

JOHN J. WHITE, alternate member. 292 Madison Avenue, New York City, New York.

INTERNATIONAL SANITARY CONVENTION FOR AERIAL NAVIGATION[1]

The Secretary of State has notified the Secretary of Commerce that the International Sanitary Convention for Aerial Navigation, which was opened for signature at The Hague on April 12, 1933, and was signed on behalf of the United States on April 6, 1934,[2] became effective in respect to the United States on November 22, 1935,[3] and that the convention is also in effect in respect to Australia, Austria, Egypt, Germany, Great Britain and Northern Ireland, Morocco, Monaco, the Netherlands, Poland, Rumania, Syria and Lebanon, and Tunis by ratification and deposit of ratifications, and is in effect in respect of Bolivia, Brazil, Chile, Iraq, Sudan, and Turkey by adherence. It came into effect in respect of Italy on December 13, 1935, and will come into effect in respect of Belgium on February 25, 1936, 120 days after the deposit of their respective ratifications with the Netherlands Government.

In signing the convention, the plenipotentiary of Great Britain and Northern Ireland declared that this signature did not include Newfoundland or any British colony or protectorate or any mandated territory in respect of which the mandate is exercised by the Government of the United Kingdom. Later, on April 3, 1935, the Government of the United Kingdom of Great Britain and Northern Ireland gave notice to the Government of the Netherlands, in accordance with the second paragraph of article 65 of the convention, of its desire that the convention shall apply to the following British possessions, protectorates, or mandated territories: Bahamas; Barbados;

1. For complete list of the Advisory Committee, see 6 JOURNAL OF AIR LAW 263 (1935) as amended in 7 JOURNAL OF AIR LAW 127 (1936).

1. 7 *Air Commerce Bulletin* No. 8, p. 191 (February 15, 1936).
2. See 5 JOURNAL OF AIR LAW 486.
3. See 6 JOURNAL OF AIR LAW 458.

Bermuda; British Guiana; British Honduras; Cyprus; Falkland Islands and dependencies; Gold Coast: (*a*) Colony, (*b*) Ashanti, (*c*) Northern Territories, (*d*) Togoland under British mandate; Hong Kong; Kenya (colony and protectorate); Leeward Islands: Antigua, Dominica, Montserrat, St. Christopher, and Nevis, Virgin Islands; Malay States: (*a*) Federated Malay States: Negri Sembilan, Pahang, Perak Selangor; (*b*) Unfederated Malay States: Johore, Kedah, Kelantan, Perlis, Trengganu, and Brunei; Mauritius; Nigeria: (*a*) Colony, (*b*) Protectorate, (*c*) Cameroons under British mandate; State of North Borneo; Nyasaland Protectorate; Palestine (excluding Trans-Jordan); Sarawak; Sierra Leone (colony and protectorate); Southern Rhodesia; Straits Settlements; Tanganyika Territory; Trans-Jordan; Uganda Protectorate; and Zanzibar Protectorate.

RECENT WARSAW CONVENTION RATIFICATIONS

Australia—Papua—Norfolk Island—New Quinea—Nauru.[1] By a note dated October 25, 1935, the Polish Chargé d'Affaires *ad interim* at Washington informed the Secretary of State that the instrument of ratification by Great Britain on behalf of Australia of the convention for the unification of certain rules relating to international transportation by air, signed at Warsaw October 12, 1929, was deposited with the Polish Government on August 1, 1935. The ratification includes the territory of Papua, Norfolk Island, and the mandated territories of New Guinea and Nauru. The ratification will become effective 90 days from the date of the deposit of the instrument of ratification.

British Dependencies.[2] The above-mentioned note from the Polish Chargé d'Affaires states, in addition, that the British Foreign Office, having advised the Polish Government on March 27, 1935, that the additional protocol was to be acted upon jointly with the convention, and that, in consequence, any country adhering to the convention accepted *ipso facto* the provisions of the additional protocol, the adherences to the convention previously notified on behalf of India,[2] certain British colonies and protectorates, and Southern Rhodesia are to be considered also as adherences to the additional protocol.

Irish Free State.[3] The Polish Chargé d'Affaires *ad interim* at Washington informed the Secretary of State by a note dated November 22, 1935, that the instrument of adherence by the Irish Free State to the convention for the unification of certain rules relating to international transportation by air, and the additional protocol, signed at Warsaw on October 12, 1929, was deposited with the Polish Government on September 20, 1935. The adherence will become effective 90 days after the date of the deposit of the instrument of adherence.

PROPOSED TRANS-ATLANTIC AIR LINES

The following statement was made on December 12, 1935, by Hon. R. Walton Moore, Assistant Secretary of State and chairman of the Interdepartmental Committee on Civil International Aviation, as chairman of

1. From *Treaty Information*, Bulletin No. 73, October, 1935, p. 12.
2. *Ibid.*
3. From *Treaty Information*, Bulletin No. 74, November, 1935, p. 11.

the aviation conference participated in by the British, Irish, and Canadian missions:

As a result of the conferences which have been in progress since Thursday, December 5, between representatives of the United Kingdom, the Irish Free State, Canada, and the United States, understandings have been reached which it is confidently hoped will bring about the early establishment of trans-Atlantic air-transport services connecting these several countries. These understandings are based upon the principle of full reciprocity between the countries interested. They do not operate to exclude similar arrangements between the United States and other countries.

The Department of Commerce has given its approval to the establishment of trans-Atlantic airways by way of Canada, Newfoundland, and the Irish Free State to England, and by way of Bermuda to England, and from Bermuda to Puerto Rico, the latter route to be extended by mutual consent. The Atlantic-seaboard ports in contemplation as termini are New York City; Baltimore, Md.; Cape Charles or Norfolk, Va.; and Charleston, S. C., any one of which may be designated as ports of entry; but no final determination with reference to places has yet been made.

It is recognized that the northern route is much shorter than the southern route and therefore will have the advantage of more economical operation, but this fact does not preclude the possibility of considerable use being made of the southern route. It is expected that experimental flights will be begun early in the summer of 1936, and it is hoped that scheduled services will begin by the summer of 1937. When the full regular service is inaugurated, it is provided that there will be four round trips per week.

The matter of the carriage of mails is necessarily postponed for future consideration.

All of the conferences were characterized by a spirit of wholehearted cooperation, and the conclusions arrived at received the unanimous approval of the conferees.

The Interdepartmental Committee on Civil International Aviation is composed of the following four members:

R. WALTON MOORE, Assistant Secretary of State, Chairman.

STEPHEN B. GIBBONS, Assistant Secretary of the Treasury.

HARLLEE BRANCH, Second Assistant Postmaster General.

JOHN MONROE JOHNSON, Assistant Secretary of Commerce.

RICHARD SOUTHGATE, of the Department of State, Executive Secretary of the Committee.

STEPHEN LATCHFORD, of the Department of State, Assistant Executive Secretary.

During the early part of February, a German delegation headed by Martin Wronsky, Director of the Deutsche Lufthansa, was in Washington to consider the possibility of establishing trans-Atlantic airline services.

AVIATION ARRANGEMENT BETWEEN THE UNITED STATES AND GREAT BRITAIN[1]

By a note dated January 25, 1936, the British Ambassador at Washington informed the Secretary of State, in accordance with paragraph 4(1) of the note of March 28, 1935, that the British Government desires that the provisions of the arrangement concerning the reciprocal treatment to be accorded in respect of air pilot licenses embodied in the notes exchanged on March 29 and April 5, 1935, shall be applied to Southern Rhodesia.

1. From Department of State *Treaty Information*, Bulletin No. 76, January 31, 1936, p. 7.

NOTES, COMMENTS, DIGESTS

COMMENTS

Constitutional Law—Conflict of Laws.—[California] A film company hired three airplanes through defendant brokerage firm for the filming of a parachute jump over the Pacific Ocean. Two were cabin planes from which the pictures were to be taken; the other was to carry the parachute jumper. While flying over the bay, the two cabin planes, in attempting to make a left turn, crashed into each other and both fell into the ocean, carrying all the occupants to their death. Plaintiffs, the representatives of the deceased employees of the film company, alleged negligence in general terms under the doctrine of *res ipsa loquitur*.[1] Plaintiffs appealed from a judgment for defendant, assigning as error (*inter alia*) the exclusion of a document issued by the Department of Commerce of the United States containing "Air Commerce Regulations" relating to the licensing of aircraft and the rules of air traffic. *Held:* the document was properly excluded. *Parker* v. *James E. Granger, Inc.*, 90 Cal. Dec. 475, 52 P. (2d) 226 (Supreme Court, November 29, 1935).[2]

The Supreme Court, in ruling that the rejection of such evidence was correct, stated: (1) that the court would take judicial notice of such official acts and regulations; and (2) that, taking such notice, it could find nothing therein which the court was called upon to declare to the jury; that the flight of the planes was purely intrastate; and that, under the federal Constitution and the California Air Navigation Act,[3] the State of California was vested with the exclusive power to prescribe air traffic rules to govern the operation of aircraft in flying a purely intrastate flight.

The facts do not indicate what part of the federal air traffic rules were thought by plaintiffs to be applicable in the instant case, but, presumptively, they sought to show a violation of the rules of flight. However, the court, by its statement that exclusive control was vested in the State of California, indicated that it would have given no consideration to the rules had they been admitted and a violation thereof shown. This statement raises the question: Are purely intrastate flights subject to federal control?

The "commerce clause"[4] of the Constitution was relied on by Congress as being the most appropriate and effective basis for federal control over aviation. The Air Commerce Act of 1926[5] left the power divided between the nation and the states.

The so-called "burden theory," developed by the railroad,[6] the radio[7]

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1. For discussion on the negligence point, see comment on page 283.
2. On hearing, 80 Cal. App. Dec. 210, 39 P. (2d) 833 (1934).
3. Cal. Deering's Gen. Laws (1931), Act No. 151, Cal. Stats. (1929), p. 1874.
4. U. S. Const, Art. 1, §8(3).
5. Act of May 20, 1926, as amended by the Act of June 19, 1934, c. 654, §§11, 12, 48 Stat. at L. 1115, 49 U. S. C. §181(5).
6. *Siler* v. *Louisville & Nashville Ry.*, 213 U. S. 175, 29 Sup. Ct. 451, 53 L. Ed. 753 (1909); *Southern Ry.* v. *United States*, 222 U. S. 20, 32 Sup. Ct. 2, 56 L. Ed. 72 (1911); *Texas and Pacific Ry.* v. *Rigsby*, 241 U. S. 33, 36 Sup. Ct. 482, 60 L. Ed. 874 (1916); *Railroad Commission* v. *Chicago, B. & Q. Ry.*, 257 U. S. 563, 42 Sup. Ct. 232, 66 L. Ed. 371, 22 A. L. R. 1086 (1922); *St. Paul, M. & M. Ry.* v. *St. Paul & N. P. Ry.*, 68 F. 2 (C. C. A. 8th, 1895), affd., 18 Sup. Ct. 946, 42 L. Ed. 1212 (1897).
7. *American Bond & Mortgage Co.* v. *United States*, 52 F. (2d) 318 (C. C. A. 7th, 1931); *Trinity Methodist Church, South* v. *Federal Radio Commission*, 62 F. (2d) 850 (App. D. C. 1932).

and the navigable water[8] cases, by which federal control of both interstate and intrastate commerce was secured, is clearly stated by Mr. Chief Justice Taft in *Railroad Commission* v. *Chicago B. & Q. Railway Company*:[9]

"Commerce is a unit and does not regard state lines, and while under the Constitution interstate and intrastate commerce are ordinarily subject to regulation by different sovereignties, yet when they are so mingled together that the supreme authority, the Nation, cannot exercise effective control over interstate commerce, such incidental regulation is not an invasion of state authority."

It is recognized that the regulation of the act of flying within the state is primarily a matter of state regulation, and that the federal government may not enter that field except where necessary to prevent interference with, or discrimination against, or interruption of, or a burden upon, interstate commerce; or except when it is necessary, in the effective regulation of interstate commerce, incidentally to regulate intrastate commerce.

In *Neiswonger* v. *Goodyear Tire & Rubber Company*,[10] the court, in extending the "burden" principle to air flights, held that the Air Traffic Rules would apply to intrastate commerce *if necessary*. Again, in *Swetland* v. *Curtis Airport*,[11] the same decision was reached, although there is some doubt as to whether or not the court in that case would have held the Air Traffic Rules applicable to intrastate commerce in that state had it not been for the evident intention of the State of Ohio that they should apply.

All air space is navigable with no defined routes. An intrastate plane in the air loses its character as such and, if operating under conflicting state regulations, may not only interfere with, and impede, planes engaged in interstate commerce, but it may be a constant source of danger both to passengers and to property. Again, where there is a conflict between levels at which planes may operate or perform acrobatics, the pilot of an interstate plane coming into a busy airport or making a forced landing would not know what to expect.

The United States Supreme Court has had as yet no opportuunity to consider the question presented by the principal case. To eliminate interference with interstate commerce and to provide for the common safety of all, it no doubt will recognize the necessity of federal control of the air under the "burden theory," as it has in the past in other fields.

ARTHUR J. O'KEEFE.[12]

Contracts—Employee Inventions—Airline Pilots.—For some time it has been a common practice with large manufacturing corporations to exact of their employees—or at least of those employees whose work is closely related to the manufacturing processes, or who are engaged in research and experimenting—contracts whereby the employee agrees that any invention made by him during the employment, relating in any way to the business of

8. *The Oyster Police Steamers of Maryland*, 31 F. 763 (D. C. Md. 1887); *The Governor Robert McLane* v. *United States*, 35 F. 926 (C. C. Md. 1888), aff'g 31 F. 763 (1887).

9. *Railroad Commission* v. *Chicago, B. & Q. Ry.*, 257 U. S. 563, 588, 42 Sup. Ct. 232, 237, 66 L. Ed. 371, 383, 22 A. L. R. 1086, 1089 (1922).

10. 35 F. (2d) 761 (D. C. Ohio 1929), discussed in: 3 Southern California Law Review, 413, 420 (1930); 1 JOURNAL OF AIR LAW 359 (1930).

11. 41 F. (2d) 929 (D. C. Ohio 1930).

12. School of Law, University of Southern California.

the corporation, shall belong to the corporation. It is understood that recently various air line companies have attempted to obtain such contracts from their employees, including the pilots and co-pilots.[1] In general, the reason behind such contracts in the United States is the existence of the patent laws,[2] which give to the inventor of a patentable article (which is in fact patented) a protective franchise for the duration of the patent.[3] The patent law also provides that application for all patents must be by the inventor.[4] As a result of this legislation, the only way in which a corporation may assure itself of the benefit and use of improvements in its processes which are invented by its employees, and patented by them, is to secure contracts from them in advance, assigning the inventor's interest to the corporation.[5] When it is considered that the corporation acts only through

1. An editorial on this subject by *Lionel G. Thorsness* may be found in Vol. IV, No. 12 of the *Air Line Pilot*. It is understandable that a manufacturing corporation has a vital interest in securing the possession of any improvements that affect it. It is not so clear why the air line companies, most of which are technically "operating" companies and not manufacturing companies, except through associated or subsidiary companies, should seek to acquire in this way the inventions of their employees. A typical employment agreement reads as follows:

"In consideration of the salary paid to me by....., a corporation of the State of , and of the position which I occupy, I hereby agree that any inventions, improvements and/or developments that I may make, invent, acquire and/or suggest during my employment by said Corporation relating generally to any process, method, apparatus, article of manufacture or thing, directly or indirectly of interest to said Corporation connected in any way with or relating to the work, tests or future developments, and/or products of the Corporation, shall become the absolute property of said Corporation, and I will, at any time at the request of said Corporation, either during my employment or afterwards, and for the consideration above named, execute any papers by way of applications, assignments, or otherwise, relative to such inventions or improvements, as well as any papers that said Corporation may consider necessary or helpful in the prosecution of applications for patents thereon in the United States or foreign countries or which may relate to any litigation, interference and/or controversy in connection therewith, without further consideration, and, if I leave the employ of said Corporation, I will, at any time, thereafter, and upon its request, execute any such papers as it may desire, all at the expense of said Corporation, and agree that the entire control, prosecution and conduct of all such matters shall be solely within the control of said Corporation and at its expense; and I further agree to give any evidence, testimony and produce any data and/or documents which may be helpful to the Corporation in connection with the foregoing, either during the period of my employment or thereafter; and I further agree not to reveal any of the information which I may acquire on the confidential matters of the Corporation while with the Corporation, either during my employment by it, or afterwards, and agree not to deliver any documents, copies thereof or reveal the contents thereof with relation to the patent applications, research and/or development work of the Corporation, either while I am with the Corporation or after the termination of my employment by it."

2. By the Constitution of the United States, Article 1, Section 8, it is provided that "Congress shall have power . . . to promote the progress of science and the useful arts by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." The constitutional grant of power has been given effect by carefully expanded statutes. For a codification of the existing statutes see 35 USC; 35 USCA.

3. "The franchise which the patent grants, consists altogether in the right to exclude everyone from making, using, or vending the thing patented, without the permission of the patentee. This is all that he obtains by the patent." *Bloomer* v. *McQuewan*, 55 U. S. 539 (1852); *United States* v. *United Shoe Machinery Corp.*, 258 U. S. 451, 42 S. Ct. 585 (1921). *Gladney*, Restraints of Trade in Patented Articles (1910), is a book devoted to explaining the nature of the franchise. Patent rights are property. *Brown* v. *Duchesne*, 60 U. S. 195 (1856); *Continental Paper Bag Co.* v. *Eastern Paper Bag Co.*, 210 U. S. 405, 28 S. Ct. 748 (1908).

4. In *McCrady*, Patent Office Practice (1928), §58, it is suggested that an assignee can never make the original application, because the Constitution requires that the protection run to the inventor. See 16 Stat. 202, 583 (1871); 35 USCA §44 (1927). Exception is made when the inventor dies, or becomes insane. In such case, the application is by his legal representative. See 30 Stat. 915 (1899), 32 Stat. 1226 (1903), 35 Stat. 245 (1908); 35 USCA §46 (1927).

5. In the absence of statute, the situation would be different, for monopolies are not sanctioned by the common law, and although a patent is not

individuals, that it of necessity entrusts these individuals with power and responsibility, and that any improvement that the corporation contemplates must be effected through these individuals, it becomes apparent that, in at least some instances, the corporation is justified in requiring such contracts.[6]

In any discussion of the employer's right to the fruits of the employee's inventive genius which have been patented by the employee, the analysis must be of a dual nature; consideration must be given to the property in the invention itself as well as to the property in the patent obtained for that invention. The property in the invention arises out of the inventive act and consists of the right to practice the invention, including the rights to make, use, and sell the object of the invention;[7] the property in the patent arises out of the grant by the sovereign acting under the positive law and consists of the right to prevent all persons except the patentee from practicing the invention, including the rights to prohibit its making, use, or sale except by such persons and on such terms as the patentee may prescribe, and to obtain redress for its illegal making, use, or sale.[8] The first of these elements exists irrespective of the second and does not depend on whether there is a patent. It may be transferred by the inventor, and so long as it be known only to the inventor and the transferee their enjoyment of its benefits may be exclusive, but where others become familiar with the invention, mere ownership of the invention does not confer the legal right to prevent its general use.[9] The second element—the patent—is necessary to prevent unrestricted use of the invention. The invention may be freely alienated to one or more persons, but such alienation does not carry with it the protection of the patent as a means of preventing others from making use of the invention. The right acquired by the transferee in this case is known as a license.[10] The patent may also be alienated, but not in the unrestricted way in which it is possible to alienate the invention alone.[11] The reason for the limitation is that it would be impossible for each of two independent persons to possess the power to prohibit the practice of an invention in the same territory. Conveyances of patents are known as assignments and grants.[12] Provision is made in the patent law for conveyances of this sort either at the time of the granting of the patent or during its subsequent life.[13]

From the discussion in the preceding paragraph it may be seen that

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technically a monopoly, the same reasoning would apply, resulting in an unrestricted public use of the invention. See 1 *Walker*, Patents (6th ed. 1929), §§1-14, 197-199. *Brown* v. *Duchesne*, *supra* note 3.

6. The language of the text is qualified because it is easy to conceive of situations where the employment, and the special knowledge therein acquired, did not in any way contribute to the idea or its subsequent successful development. In such cases it might seem unfair to compel the surrender of the invention to the employer, especially if the development has not been at the expense of the employer.

7. 2 *Robinson*, Patents (1890), §753.

8. 2 *Robinson*, *op. cit. supra* note 7, §753. *Bloomer* v. *McQuewan*, *supra* note 3.

9. *Supra* note 5. *Summerhays* v. *Scheu*, 52 P. (2d) 512 (Cal. App. 1935).

10. 2 *Robinson*, *op. cit. supra* note 7, §760; 1 *Walker*, *op. cit. supra* note 5, §343; *McCrady*, *op. cit. supra* note 4, §287. See *Gayler* v. *Wilder*, 51 U. S. 477 (1850).

11. Alienation of the patent carries with it as incidental thereto the property in the invention. See 2 *Robinson*, *op. cit. supra* note 7, §§756, 758.

12. 1 *Walker*, *op. cit. supra* note 5, §§319, 334; 2 *Robinson*, *op. cit. supra* note 7, §759. An assignment passes the entire title to the patent; a grant passes the entire interest for a restricted area.

13. 16 Stat. 202 (1870), 16 Stat. 583 (1871); 35 USCA §44 (1927). 29 Stat. 693 (1897), 42 Stat. 391 (1922); 35 USCA §47 (1927).

there are, in general, two types of interests that the employer may claim in the patented inventions of his employee, assignments and licenses.[14] Normally the employer would prefer to obtain an assignment because of the greater protection it affords him through possession of the right to prevent others from making use of the invention. Because of its relatively greater value to the employer, the assignment will be considered before dealing with the license in this comment. It may be stated as a general rule that the mere fact of the relationship of employer and employee will not necessarily entitle the former to inventions made by the latter along the line of the employment. Ordinarily an express contract to assign the patent, or the interests of the inventor is necessary, and this will not be implied in law merely because of the relationship of the parties.[15] However, the fact that the contract of employment does not contain an express provision to the effect that inventions made by the employee shall belong to the employer does not prevent the employer from making claim to the inventions where other circumstances induce this result.[16]

Where the parties have expressly contracted that the inventions of the employee shall belong to the employer, construction of the contract and the determination of its validity is a matter of contract law and not of patent law.[17] In the past the validity of such contracts has been attacked on numerous grounds, but it has been generally held that a properly drafted contract is not open to the objections of being void as against public policy, of being unconsciously, or of being lacking in mutuality..[18] If the contract to assign is entered into at the same time as the contract of employment, it will ordinarily be held that there is valid consideration to support the agreement, on the theory that this constituted part of the consideration for obtaintaining the employment.[19] If the contract to assign is entered into after the employment has commenced, and no additional consideration is given, normally the contract will be held void as lacking in consideration.[20] If the

14. Separate consideration is not given to the grant which differs from the assignment only in that a more limited territorial area is included. *Supra* note 12.

15. *Hapgood* v. *Hewitt*, 119 U. S. 226, 7 S. Ct. 193 (1886); *Dalzell* v. *Dueber Watch Case Mfg. Co.*, 149 U. S. 315, 13 S. Ct. 886 (1893); *Pressed Steel Car Co.* v. *Hansen*, 137 F. 403 (C. C. A. 3d, 1905); *U. S. Colloid Mill Corp.* v. *Myers*, 6 F. Supp. 283 (1934); *American Cyanamid Co.* v. *Hubbell*, 76 F. (2d) 807 (C. C. A. 3d, 1935); *Miller & Co.* v. *Beagen*, — Mass. —, 199 N. E. 344 (1935). For annotations and comment on this subject see 16 A. L. R. 1512; 32 A. L. R. 1037; 44 A. L. R. 593; 85 A. L. R. 1512; 20 A. B. A. Jour. 538 (1934).

16. *Agawam Woolen Co.* v. *Jordan*, 74 U. S. 583 (1869); *Howard* v. *Howe*, 61 F. (2d) 577 (C. C. A. 7th, 1932); *Milwaukee* v. *Activated Sludge*, 69 F. (2d) 577 (C. C. A. 7th, 1934).

17. The patent law permits of assignments. See *supra* note 13.

18. *Hulse* v. *Bonsack Mach. Co.*, 65 F. 864 (C. C. A. 4th, 1895); *Thompson* v. *Automatic Fire Protection Co.*, 211 F. 120 (C. C. A. 2d, 1914); *Guth* v. *Minnesota Min. & Mfg. Co.*, 72 F. (2d) 385 (C. C. A. 7th, 1934); *DuPont Rayon Co.* v. *Paley*, 4 F. Supp. 290 (1933). A case reaching opposite result on its peculiar facts is *Goodyear Tire & Rubber Co.* v. *Miller*, 14 F. (2d) 776 (1926). There are many cases sustaining contracts of this sort, where the court in its decision sustains the contracts without mention of these objections. See *New Jersey Zinc Co.* v. *Singmaster*, 71 F. (2d) 277 (C. C. A. 2d, 1934); *Standard Parts Co.* v. *Peck*, 264 U. S. 52, 44 S. Ct. 239 (1924); *Oliver* v. *Autographic Register Co.*, 118 N. J. Eq. 72, 177 A. 680 (1935); *Quaker St. Oil Refining Co.* v. *Talbot*, 315 Pa. 517, 174 A. 99 (1934).

19. 3 *Williston, Contracts* (1920), §1643. *Wege* v. *Safe-Cabinet Co.*, 249 F. 696 (C. C. A. 6th, 1918). If the employment be an employment at will, the result would probably be *contra*. See *Goodyear Tire & Rubber Co.* v. *Miller*, *supra* note 18.

20. *Goodyear Tire & Rubber Co.* v. *Miller*, *supra* note 18; *Treat* v. *Ellis*, 6 Alaska 290 (1920); *Young* v. *Schwint*, 108 Kan. 425, 195 Pac. 614 (1921). An analogous case in another field of the law is *Davis & Co.* v. *Morgan*, 117 Ga. 504, 43 S. E. 732 (1903). *Anson*, Contracts (Turck ed. 1929), §17. Unless

contract is otherwise in proper form, there is no objection to a provision that the employer shall be entitled to all inventions or patents obtained during the employment. Question often does arise, however, where the contract is silent as to the length of its effectiveness, or where it contains a provision purporting to continue its duration for a specified period after the termination of the employment. When the courts are faced with this situation, there are two divergent lines of reasoning which may influence them in reaching their decisions: *first,* the desire to protect the employer against the employee who conceives an idea or makes an invention during the employment, but who conceals it from the employer, or fails to attempt to patent it until after the employment ends; *second,* the reluctance to bind the employee to the employer in this way after the termination of the employment. It has been held that it is not against public policy to include such a provision in the contract, and it will be sustained if the time is reasonable.[21] Similar reasoning has allowed the employer a reasonable time, even in the absence of express provision.[22] Another problem that may arise in connection with the contracts to assign is the extent of the subject matter; just what type of invention should be deemed included under the contract? If the contract is precise in its terms, covering only inventions arising out of the employment, or from knowledge acquired therein, there is no difficulty. However, if the contract is so general that it could include any invention made by the employee, even though it has no relation to the employment or to the business of the employer, a literal interpretation might work a great hardship on the employee and confer on the employer an undeserved benefit. It is submitted that such general clauses should always be construed narrowly in favor of the employee.[23]

Assuming that a contract to assign of the type discussed in the preceding paragraph is so drafted as to be valid in all respects, it nevertheless does not constitute an assignment.[24] It is merely an executory contract to perform acts which may possibly occur in the future. An assignment contemplates an existing invention. When the inventions are in fact made and patented, the employer is entitled to bring a bill in equity to compel an assignment if the employee refuses to assign voluntarily.[25]

Although it is generally true that an express contract is necessary to entitle the employer to the inventions and patents of his employee, it has

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some adequate consideration is given for the contract of assignment, the only way in which it could be sustained would be to deem the transaction a complete recission of the prior contract of employment, and a substitution of a new one. Normally the facts would not support that result. See *Schwartzreich* v. *Bauman-Basch,* 231 N. Y. 196, 131 N. E. 887 (1921).

21. *New Jersey Zinc Co.* v. *Singmaster, supra* note 18. Where the agreement is indefinite in time, it is held to be bad. See *Hulse* v. *Bonsack Mach. Co. supra* note 18; *Guth* v. *Minnesota Min. & Mfg. Co., supra* note 18. *Walker, op. cit. supra* note 5, §323 says that although contracts for unlimited time are probably void, still, "it may be gathered from the cases that . . . if the purpose intended . . . by the contract is the protection of the other's business from advantages that have or may be gained by the inventor from his relations with the other, the contract is not void."

22. *Wege* v. *Safe-Cabinet Co., supra* note 19; *Standard Plunger Elevator Co.* v. *Stokes,* 212 F. 893 (C. C. A. 2d, 1914).

23. In *Guth* v. *Minnesota Min. & Mfg. Co., supra* note 18, it was held that a contract unlimited as to subject matter should be construed in a narrow way so as to include only what was within the contemplation of the parties.

24. 2 *Robinson, op. cit. supra* note 7, §771.

25. *United States* v. *Dubilier Condenser Corp.,* 289 U. S. 178, 53 S. Ct. 554 (1923). This remedy is essential when it is considered that the employee by having the patent may prevent the employer from exercising an invention to which he may have every right. In form, this is a bill for specific performance.

already been intimated that under some circumstances the rule is otherwise.[26] There are various factors entering into the determination of this question in the absence of contract, but the controlling principles are those of the law of master and servant.[27] The application of these principles may not produce so nearly uniform results in all jurisdictions as is true of the construction of contracts to assign, but in a case where the employer has established a valid claim, the variance will be in the extent of the interest awarded him. Where the employee has been hired to invent, but the employment contract is silent as to who is entitled to the ownership of any resulting inventions and of the patents thereon, the authorities are uniform in saying that all these benefits shall accrue to the employer.[28] Scarcely less clear is the employer's right to an invention where the basic idea is his and he employs mechanics and engineers to effect the mechanical realization of the idea, nor is the employer's right affected by the fact that the ultimate design incorporates improvements suggested by the employee.[29] A situation of frequent occurrence is where an employee is not employed to invent, but in the course of his employment he makes an invention relating to the processes of his employment, either wholly or partly at the expense of the employer by making use of the equipment, materials, and the help of other employees. If the case were new and were to be decided on principle, the writer would be inclined to award the invention and patent to the employer.[30] However, the weight of authority is that the inventor is entitled to keep his invention, and that the employer gets a license to use it.[31] The foregoing constitute the principal situations in which the employer may be entitled to the employee's inventions. Under rare circumstances, where the inventor is more than a mere employee, courts have inferred a trust relationship between him and the corporation, and have compelled him to assign his patents to the corporation.[32] The fact that the employee involved is employed by the United States has been held to make no difference, and the Government has no greater right to the inventions of its employees than an ordinary employer.[33] Unquestionably, the same principles apply here as in the case of the express contract to assign in limiting the subject matter of inventions over which assignment will be compelled to those arising out of the employment. Similarly, the employer will be entitled, at most, to only those in-

26. *Supra* note 16.

27. 3 *Fletcher*, Cyclopedia of Corporations (1931), §893; 5 *Labatt*, Master & Servant (2d ed, 1913), §§2042-47.

28. *Solomons* v. *United States*, 137 U. S. 342, 11 S. Ct. 88 (1890); *Gill* v. *United States*, 160 U. S. 426, 16 S. Ct. 322 (1896); *Standard Parts Co.* v. *Peck*, *supra* note 18; *United States* v. *Dubilier Condenser Co.*, *supra* note 25.

29. *Agawam Woolen Co.* v. *Jordan*, 74 U. S. 685 (1869); *Union Paper Collar Co.* v. *Van Dusen*, 90 U. S. 530 (1874); *Borglin* v. *Palmer*, 70 F. (2d) 899 (Ct. C. & Pat. App., 1934); *Milwaukee* v. *Activated Sludge*, *supra* note 16. Although this is the general rule, there is a complementary rule that if the employee goes further and works out some new development, patentable in itself, he may be entitled to this invention and patent. See *McKeen* v. *Jerdone*, 34 App. D. C. 163 (1909).

30. Language which might support this view appears in *Gill* v. *United States*, *supra* note 28, where in an action by the employee to collect royalties it was said that the use of the employee of all the equipment of the employer raises an inference that the work was done for the benefit of the employer, or an implication of bad faith on the part of the employee.

31. *Hapgood* v. *Hewitt*, *supra* note 15; *Dalzell* v. *Dueber Watch Case Mfg. Co.*, *supra* note 15; *American Cyanamid Co.* v. *Hubbell*, *supra* note 15; *Chicago Daily News* v. *Kohler*, 360 Ill. 351, 196 N. E. 445 (1935).

32. *Dowse* v. *Federal Rubber Co.*, 254 F. 308 (1918).

33. *Solomons* v. *United States*, *supra* note 28; *Gill* v. *United States*, *supra* note 28; *United States* v. *Dubilier Condenser Co.*, *supra* note 25.

ventions made and patented during the employment and for a reasonable time thereafter.

In many instances the employer acquires a license or, as it is technically known, a "shop right" in a patented invention of his employee. As has been pointed out previously, a license consists of a right to the use of an invention, but it does not include the power to exercise the monopoly or patent so as to exclude its use by others.[34] Sometimes the license arises out of a contract, the construction of which is a matter of contract law.[35] More often the license arises by operation of law, its existence being determined in litigation between the parties. In the latter case, the license arises as a result of the conduct of the employee.[36] Usually the basis for implying a license is either that the employee has acquiesced in the use by the employer of some invention of the employee,[37] or that the employee has made an invention during the course of his employment at the expense of the employer.[38] The duration of an express license is determined by reference to the contract;[39] normally the implied license is irrevocable.[40] It is apparent that the extent of the license granted will vary with the nature of the invention and the nature of the business of the employer, but in all cases the license will be as limited as the circumstances permit.[41] In general, the license is considered a personal privilege to the employer and is not assignable.[42]

In all cases there is a presumption that the patentee is entitled to his invention.[43] Where there is an express contract to assign, we have seen that it is possible to obtain specific performance of this contract. Similarly, in the absence of the contract, where the employer is able to show that in all good faith he is entitled to an assignment of the patent, he will be able to obtain this relief by a bill in equity.[44] In connection with the subject of good faith it is interesting to note, although it has no direct bearing on this comment, that when an employee terminates his employment, good faith requires that he not reveal any secret processes of his former employer to any third person.[45]

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34. *Russell* v. *Boston Card Index Co.*, 276 F. 4 (C. C. A. 1st, 1921); *Bell & Howell Co.* v. *Shoor*, 216 Ill. App. 221 (1919).

35. The validity of such contracts has been sustained in the following cases: *Straus* v. *Victor Talking Mach. Co.*, 243 U. S. 490, 37 S. Ct. 412 (1917); *Bijur Motor Lighting Co.* v. *Eclipse Mach. Co.*, 243 F. 600 (1917).

36. *Hazen Mfg. Co.* v. *Wareham*, 242 F. 642 (1917).

37. *Solomons* v. *United States*, *supra* note 28; *Gill* v. *United States*, *supra* note 28; *Neon Signals Co.* v. *Alpha-Claud Neon Corp.*, 54 F. (2d) 793 (1932).

38. *Supra* note 31. *Amdyco Corp.* v. *Urquhart*, 39 F. (2d) 943 (1930); *American Circ. Loom Co.* v. *Wilson*, 198 Mass. 182, 84 N. E. 133 (1908); *McKinnon Chain Co.* v. *Amer. Chain Co.*, 259 F. 873 (1919); *Mix* v. *National Envelope Co.*, 244 F. 822 (1916).

39. *Straus* v. *Victor Talking Mach. Co.*, *supra* note 35.

40. *Neon Signals Co.* v. *Alpha-Claud Neon Corp.*, *supra* note 37; *Chicago Daily News* v. *Kohler*, *supra* note 31.

41. If the right to make and use is all that is needed, the license will be so limited. *Dunkley Co.* v. *Cal. Packing Corp.*, 277 F. 996 (1921); *Cinema Patents Co.* v. *Columbia Pictures Corp.*, 62 F. (2d) 310 (1933). Where the right to sell is necessary to permit of a beneficial use of the license, it will be allowed. *Rickly* v. *Parlin & Orendorff Co.*, 215 Ill. App. 512 (1919).

42. *Hapgood* v. *Hewitt*, *supra* note 15; *General Paint Corp.* v. *Kramer*, 68 F. (2d) 40 (C. C. A. 10th, 1935).

43. *Borglin* v. *Palmer*, *supra* note 29.

44. This type of suit may be brought in the state courts. *Pressed Steel Car Co.* v. *Hansen*, *supra* note 15; *Dalzell* v. *Dueber Watch Case Co.*, *supra* note 15; *Quaker St. Oil Refining Co.* v. *Talbot*, *supra* note 18; *Manton-Gaulin Mfg. Co.* v. *Colony*, 255 Mass. 194, 151 N. E. 71 (1926). See *Borglin* v. *Palmer*, *supra* note 29 concerning the presumption in favor of the patentee.

45. *Stone* v. *Grasselli Chemical Co.*, 65 N. J. Eq. 756, 55 A. 736 (1903); *Aronson* v. *Orlov*, 228 Mass. 1, 116 N. E. 951 (1917); *Macbeth-Evans Glass Co.* v. *Schnelbach*, 239 Pa. 76, 86 A. 688 (1913). See typical contract, *supra* note 1.

It is apparent that in all instances principles of equity play an important part in determining the relative rights of the employer and the employee to the inventions of the latter. The scope of the subject matter, the duration of the period during which the employer has a right, and the nature of his interest are all governed by equitable considerations. Applying these considerations to the case of an air line pilot and his employer, the writer is led to the conclusion that in almost all cases an express contract will be necessary to entitle the employer to the pilot's inventions by assignment. The duties of the ordinary commercial pilot negative the idea that he is employed to invent, or to effect mechanical perfection of some idea of the employer, and for these reasons a duty to assign will not be implied in law. It is conceded that the rule will be otherwise as to any research and experimental pilots. Whether the air line company will acquire a shop right in the pilot's inventions will depend largely on the conduct of the pilot himself. If he makes use of the tools, equipment, and time of the airline to develop improvements, or if he permits the company to use his invention, he will not be heard to complain if the employer is deemed to have a license. As to the express contracts to assign, it is probable that in some instances they may fail for lack of consideration.[46] Even if the requirements of consideration be met, it would still seem that the contract must be construed very strictly and narrowly because of the nature of the work of the pilot. In other fields of employment, contracts of this sort have been construed to include only inventions arising out of the employment, or the special knowledge acquired therein.[47] It is submitted that there is a difference between the knowledge the pilot acquires because of his employment, and that coming to him because of his knowing how to fly. For this reason he might well be entitled to many of his inventions. It is suggested, also, that the fact that many of the air lines are exclusively operating companies, and enter into no manufacturing processes, is entitled to some consideration in a court of equity in determining whether an employer is entitled to an assignment of the patents of its pilots.[48]

E. V. Moore.[49]

Negligence—Res Ipsa Loquitur.—[California] Fox Film Company hired two cabin planes, through James E. Granger, Inc., from Tanner Motor Livery, for use as camera planes in filming a parachute jump over the Pacific Ocean. These planes were specially fitted with dual controls for this use, and were operated by licensed pilots in the employ of the livery. Both planes carried a director or assistant director of the film company, who sat at the alternate control with the licensed pilot in his respective plane; three other employees of the film company made up the balance of the load in each plane. The route of flight, position of planes, timing, and all other

46. *Supra* note 20. It is also important to consider the nature of the employment contracts of the pilots. Does the fact that the pilots are subject to Government licensing, which requires frequent examination and the maintenance of certain standards in order to retain the license, make their employment similar to an employment at will? See *supra* note 21.

47. *Supra* note 23.

48. *Supra* note 1. The Air Mail Law of 1934, as amended, renders this mandatory of carriers of the mail. 48 Stat. 936 (1934), 49 Stat. 617 (1935); 39 USCA, §469e (1935). The provisions of these Acts are set out in 5 Journal of Air Law 462 (1934) and 6 Journal of Air Law 594 (1935).

49. Member of the Legal Publications Board, Northwestern University School of Law.

particulars were under the supervision of the film company's director. During the course of the flight, and while the two ships were attempting to negotiate a left turn, the right ship appeared to side-slip so that the wings of the two planes met and they fell into the ocean, carrying all occupants to their death. Eight actions begun by representatives of the deceased employees of the film company against the broker and the owner of the planes were tried together. Plaintiffs alleged negligence in general terms, setting up the mid-air collision, but offering no evidence in explanation thereof. The court instructed the jury that, in order for the doctrine of *res ipsa loquitur* to be applicable, the plaintiff must first have shown that defendant must possess or have possessed superior knowledge as to the cause of the accident, or must be or have been in a better position to obtain that knowledge. From a judgment for defendants, plaintiffs appealed, contending that the instruction as given was erroneous, in that, by such instruction, defendant was required merely to profess entire ignorance of the cause of the accident in order to avoid the inference of negligence. *Held,* that there was no prejudicial error, since the doctrine *res ipsa loquitur* could not be applied without first establishing the fact of exclusive control. *Parker* v. *James E. Granger, Inc.,* 90 Cal. Dec. 475, 52 P. (2d) 226 (1935).[1]

The above decision has been welcomed as a decisive aid in clarifying the application of the doctrine in airplane collision cases. That the doctrine is not applicable in all such cases is apparent from a consideration of its elements, as stated by the California Supreme Court forty years ago: "When a thing which causes injury is shown to be under the management of defendant, and the accident is such as in the ordinary course of things does not happen if those who have the management use proper care, it affords reasonable evidence in the absence of explanation by defendant, that the accident arose from want of care."[2] A review of this statement discloses that two conditions are essential for a proper application: (1) that the instrumentality or mechanism shall be under the control of defendant; and (2) that no accident from such mechanism would normally occur except for negligence of operation.

The leading case involving this doctrine concerned the accidental fall of a barrel of flour from an upper window of defendant's warehouse;[3] it struck the plaintiff who was passing on the public road below. The court observed that, as an ordinary thing, barrels of flour do not fall out of windows unless someone is careless. Just how defendant was negligent, plaintiff could not say, since his first knowledge thereof was received abruptly when he was struck without warning. Yet the court felt that when the thing (*i. e.,* negligence) speaks for itself there is no need of proof by plain-

1. On hearing after decision in the District Court of Appeal, 80 Cal. App. Dec. 201, 39 P. (2d) 833 (1934).

2. *Judson* v. *Giant Power Co.,* 107 Cal. 549, 556, 40 Pac. 1020, 48 Am. St. Rep. 146, 29 L. R. A. 718 (1895); see, also: *Harper,* Treatise on the Law of Torts (1st ed. 1933), §77, to the effect that "when certain types of harm occur under circumstances which, from common experience, strongly suggest negligence and when the agency or instrumentality which occasioned the harm is under the exclusive control and management of the defendant so that he is in a better position to prove his innocence than plaintiff is to prove his negligence, there exists a res ipsa loquitur case." For a general discussion of this topic, see 5 *Wigmore,* Evidence (2d ed. 1923), §2509.

3. *Byrne* v. *Boadle,* 2 H. & C. 722, 159 Eng. Rep. 299 (Exch. 1863), where the trial court non-suited plaintiff on theory of failure of proof, *i. e.,* an allegation of negligence but no evidence thereof; on appeal the Court of Exchequer reversed the judgment on the ground that plaintiff had made a *prima facie* case.

tiff, hence, unless defendant can clearly show an absence of negligence, the *prima facia* case is not rebutted.

The doctrine has been variously applied,[4] and is now well established in California law, in relation to accidents occurring on the ground. It is apparent from a consideration of some of the later decisions[5] that the importance of a strict adherence to the elements of the doctrine has been realized in other connections. A clearly defined concept thereof, in its relation to accidents involving aircraft, however, has not heretofore been stressed by the California court. It is of course a question for the trial court whether the doctrine shall be submitted to the jury at all; it is therefore the court's duty to determine whether the facts present a true *res ipsa loquitur* case—*i. e.*, whether, as a matter of fact, the thing speaks for itself. For convenience of analysis we may divide the field into those cases where the doctrine is applied, and those where it is either refused or merely not raised. In *Wilson* v. *Colonial Air Transport, Inc.*, the court said that "the rules of law relating to the operation of aircraft, in the absence of statute, in general are rules relating to negligence . . . and are not distinguishable from those which relate to the operation of vehicles, perhaps, more closely, to motor vehicles on land."[6] In that case, the right wing motor stopped shortly after the plane took off; the plaintiff contended the *res ipsa loquitur* doctrine should apply, since the ship was entirely within the control of defendant, and motors do not stop if they have been properly serviced. But the court said that plaintiff did not show that servicing the motor was a factor within the control of defendant, or that it had not been serviced before taking off; the doctrine will not be applied, the court said, "if there is any other reasonable or probable cause from which it might be inferred there was no negligence at all; nor does it apply in any instance when the agency causing the accident is not under the sole and exclusive control of the person sought to be charged with the injury."[7]

The New York court also recognized that "it is common knowledge that airplanes fall in a great many instances from causes over which the pilot has no control,"[8] and it dismissed a cause of action based on a general allegation of negligence inferred from the fact that defendant's plane collided with plaintiff's electric-power line while making a forced landing at night. In *Seaman* v. *Curtiss Flying Service, Inc.*, and *Stoll* v. *Curtiss Flying Service, Inc.*,[9] the jury was instructed with regard to the application of the doctrine, but it will be observed that these cases may be distinguished on the

4. 4 JOURNAL OF AIR LAW 429 (1933)—case note by Sam E. Gates on *Smith* v. *O'Donnell*, 67 Cal. App. Dec. 838, 5 P. (2d) 690 (1932).

5. *Connor* v. *Atchison, T. & S. F. Ry.*, 189 Cal. 1, 207 P. 378, 26 A. L. R. 1462 (1922); *Damgaard* v. *Oakland H. S. Dist.*, 212 Cal. 316, 298 P. 983 (1931); *Manuel* v. *Pacific G. & E. Co.*, 134 Cal App. 512, 25 P. (2d) 509 (1933).

6. *Wilson* v. *Colonial Air Transport, Inc.*, 278 Mass. 420, 425, 180 N. E. 212, 214 (1932).

7. See footnote No. 6, *supra.*

8. *Rochester Gas & Elec. Co.* v. *Dunlop*, 266 N. Y. S. 469, 472, 148 Misc. 849 (1933); see, also: *Conklin v. Canadian-Colonial Airways, Inc.*, 271 N. Y. S. 1107 (App. Div. 1934), saying that the mere fact that an accident occurred does not, in and of itself, make the defendant liable in damages to plaintiff.

9. *Seaman* v. *Curtiss Flying Service, Inc.*, 231 App. Div. 867, 247 N. Y. S. 251 (1930), where an airplane in perfect condition crashed shortly after taking off, there being no evidence as to the cause, it was said that the jury should be instructed as to the application of the res ipsa loquitur doctrine. In *Stoll* v. *Curtiss Flying Service, Inc.*, 236 App. Div. 664, 257 N. Y. S. 1010 (1932), it was said that, in an airplane accident case, plaintiff may show that defendant has been negligent either by proof of specific acts of negligence or, under circumstances of the particular case, by relying on the presumption of *res ipsa loquitur.*

fact that defendant was a common carrier, and that the accident occurred in daylight and under normal conditions. The Texas court indicated that it would apply the doctrine to a common carrier, except that in the particular case it was prevented by a rule of procedure.[10] The Illlinois court had for consideration a case where the defendant was not operating as a common carrier, and in such circumstances it was said that, in the absence of actual proof of negligence, none would be inferred.[11]

In the principal case we are told that dual controls were installed previous to the fatal flight at the order of the charterer, but that neither the film director who occupied the extra control position of the one plane, nor the assistant director who sat at the auxiliary control mechanism of the other, was a licensed pilot. It would seem, then, that there might be some reasonable doubt as to the sole and exclusive control of defendant's agents at the moment of the accident.[12] In his article on "Res Ipsa Loquitur in Air Law," Professor Harper says: "If the instrument or agency which precipitated the injury is not under the exclusive control of the defendant, the basis for presumption of legal cause falls. The injury might just as readily be caused by the negligence of a third person as by defendant's presumed negligence. When the injury will support the one as well as the other hypothesis, the usual and general rule applies, and plaintiff must make out a *prima facie* case by actual proof."[13] The same idea is expressed by Mr. Davis, of the California Bar, in his article on "The California Doctrine of Res Ipsa Loquitur."[14]

That the second essential element of the doctrine was present in the principal case may also be doubted. In the *Dunlop* case, it was said that the operation of aircraft is not in such a state of efficiency that it can be said that "if the proper degree of care is used, a collision in mid-air does not ordinarily occur. The mere fact that a collision occurred should not raise the benefit of the doctrine for plaintiff, and cast upon defendant the burden of excusing a presumed negligence which may be as unexplainable to him as to plaintiff."[15] In these cases it usually happens that none of the parties to the litigation was either a principal in the accident or saw the occurrence and that, if it is therefore difficult for plaintiff to prove actual negligence, it is equally hard for defendant to show absence of fault; and since it can not invariably be said that no accident will occur except when defendant or his agent is negligent, it is submitted that the doctrine should not be invoked in mid-air collision cases.

It has been said that "rules for determining the liability of aviators should be sought in the law relating to negligence and nuisance,"[16] and Sec-

10. *English* v. *Miller*, 43 S. W. (2d) 642 (Texas, 1931).
11. *Bird, Admr.* v. *Louer*, 272 Ill. App. 522 (1933).
12. See 90 Cal. Dec. 475, 480, 52 P. (2d) 226, 229 (1935).
13. 1 Air Law Review 478 (1930); see, also: 19 Cal. Jur., Negligence, §126: "It does not apply where an unexplained accident might have been caused by plaintiff's negligence, or been due to one of several causes, for some of which defendant is not responsible."
14. 5 Air Law Review 28, 36 (1934): "The *res ipsa loquitur* doctrine is applicable only where defendant is proved to have been in control of an instrumentality which caused the accident, and that no inference of negligence on the part of defendant proximately resulted in the accident arises where the fact of the accident speaks equally in favor of negligence on the part of another or others as solely causing the accident."
15. 5 JOURNAL OF AIR LAW 655 (1934)—comment by Saul N. Rittenberg, on *Rochester Gas & Elec. Co.* v. *Dunlop*, 266 N. Y. S. 469, 148 Misc. 849 (1933).
16. 2 Air Law Rev. 9 (1931)—article by *Osterhout*, "Doctrine of Res Ipsa Loquitur as Applied to Aviation," and footnote No. 2 at page 10 thereof.

tion 6 of the recommended Uniform State Law for Aircraft proposes that "liability of the owner of one aircraft to another or to aeronauts or to passengers on either craft for damage caused by collision on land or in the air shall be determined by the rules of law applicable to torts on land."[17] It is believed that if courts will carefully consider the rules which have been worked out in connection with injury to passengers in railway collisions and other instances in which it can truly be said that, in the absence of negligence or carelessness, no accident will happen, and apply such rules to airplane collisions, then the doctrine of *res ipsa loquitur* will rarely find pertinency in mid-air collision cases.

There appear to be but two previous California cases involving liability for injury or death due to airplane collisions, in both of which the defendant was found to be a common carrier. In *Smith* v. *O'Donnell*,[18] the plaintiff merely alleged the accident wherein defendant's ship collided with the ship of a student-flyer and his instructor, which was also attempting to land, though on a lower level. Defendant contended that, due to the position of the student's ship, which was immediately below and coming in on the same angle of flight, observation was impossible. The court however decided that defendant, who was engaged in aerial transportation for hire (although plaintiff was a gratuitous guest), was a common carrier and in such circumstances the doctrine is applicable. In *Allison, Adm.* v. *Standard Air Lines, Inc.*,[19] an interstate transport plane from Los Angeles to El Paso encountered fog as it approached the San Gorgonio Pass; after circling (presumably for altitude) it disappeared into the fog and later crashed into the side of a mountain. The case was tried in the federal court, which tribunal did not apply the *res ipsa* doctrine, but said that it was incumbent upon the plaintiff to show that defendant had been negligent and that such negligence was the proximate cause of the injury complained of.

Since the doctrine was applied in only one of these cases, and found its justification there in the fact that the owner of the plane was a common carrier, it seems that the trial court would have been justified in denying the applicability of the doctrine to the facts of the principal case. It is submitted that the rule adopted by the Massachusetts court in *Wilson* v. *Colonial Air Transport*[20] has now a definite place in the law of California, and that future actions involving liability for injuries to passengers in airplanes will be governed by the recognized principles of this important rule of tort liability.[21]

LLOYD H. GARNER.[22]

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17. 1 JOURNAL OF AIR LAW 253 (1930).
18. *Smith* v. *O'Donnell*, 67 Cal. App. Dec. 838, 5 P. (2d) 690 (1931), adopted in 215 Cal. 714, 12 P. (2d) 933 (1932), noted in 4 JOURNAL OF AIR LAW 429 (1933).
19. *Allison, Admr.* v. *Standard Air Lines, Inc.*, 65 F. (2d) 668 (C. C. A. 9th 1933).
20. *Wilson* v. *Colonial Air Transport, Inc.*, 278 Mass. 420, 425, 180 N. E. 212, 214 (1932), *supra*, footnote No. 6.
21. It is submitted that the California Supreme Court has now definitely committed itself to a strict adherence, in cases involving tort liability for aviation accidents, to the essential elements of the doctrine of res ipsa loquitur, by its statement that the doctrine "could not be applied without first establishing the fact of exclusive control." *Parker* v. *James E. Granger, Inc.*, 90 Cal. Dec. 475, 480, 52 P. (2d) 226, 229 (1935).
22. Member of the Student Editorial Board, Southern California Law Review.

Negligence — Passenger Discrimination — Tubercular Passenger. — [Kentucky] Plaintiff and husband took passage on defendant airline from El Paso, Texas, to Louisville, Kentucky, with knowledge of the defendant that the man was afflicted with tuberculosis. Conflicting testimony was presented as to whether the dispatcher at El Paso had warned against taking the trip and also as to the degree of care exercised by the pilot in operating the plane. Because of the weakened condition of the sick man, the pilot was obliged to put in at Fort Worth where a qualified physician made an examination, pronounced the man in the last stages of tuberculosis, and advised that it would be dangerous for him to continue the trip by plane. Both man and wife were taken to a hotel at the defendant's expense and provided with rail transportation out of the refund due. Plaintiff denied acquiesence in the arrangements and sought damages for the ejection, claiming it hastened her husband's death which occurred a week after their arrival in Louisville. The lower court gave judgment for the defendant. *Held:* on appeal, affirmed. A carrier has the power to eject a passenger afflicted with an infectious disease. *Casteel* v. *American Airways, Inc.*, 88 S. W. (2d) 976 (Ky. 1935).

It is generally stated that a common carrier cannot discriminate among persons desiring to become passengers.[1] This rule had its inception in medieval England where, due to monopoly and extreme limitation of facilities, public interest demanded unrestricted acceptance of freight and passengers by the carrier.[2] Of necessity, this broad principle is subject to a number of practical exceptions and does not prevent the carrier from adopting rules for the protection of the general travelling public and of its own property interests.[3] Among these exceptions is the power to decline to accept for passage as well as eject one who is afflicted with an infectious or infectious disease.[4] This appears to be especially desirable in air transportation where it is of primary importance that every precaution be taken to

1. On the question of whether airlines are common carriers, consult *Curtiss-Wright Flying Service* v. *Glose*, 66 F. (2d) 710, 712 (C. C. A. 3d, 1933) ; *Conklin* v. *Canadian-Colonial Airways*, 266 N. Y. 244, 194 N. E. 692 (1935) ; *Allison* v. *Standard Airlines, Inc.*, 1930 U. S. Av. R. 292, aff'd 65 F. (2d) 668 (C. C. A. 9th, 1933) ; *Hagymasi* v. *Colonial Western Airways, Inc.*, 1931 U. S. Av. R. 73 (Essex Co., N. J.) ; *Law* v. *Transcontinental Air Transport Co.*, 1931 U. S. Av. R. 205 (D. C. Pa.) ; *Contra: Brown* v. *Pacific Mutual Life Ins. Co.*, 8 F. (2d) 996 (C. C. A. 5th, 1925) ; *No. Am. Acc. Ins. Co.* v. *Pitts*, 213 Ala. 102, 104 So. 21 (1925) ; but see *Smith* v. *O'Donnell*, 34 Cal. Dec., 12 P. (2d) 933 (1932) which distinguishes the two contra cases. Also see, *Rowan A. Greer*, "Civil Liability of an Aviator as Carrier of Goods and Passengers," 1 JOURNAL OF AIR LAW 241 (1930) ; *John K. Edmunds*, "Aircraft Passenger Ticket Contracts," 1 JOURNAL OF AIR LAW 321 (1930) ; *Irwin S. Rosenbaum*, "Regulation of Aircraft as Common Carriers," 3 JOURNAL OF AIR LAW 194 (1932).

2. For an interesting historical survey cited in the opinion of the instant case, see *Frank E. Quindry*, "Airline Passenger Discrimination," 3 JOURNAL OF AIR LAW 479 (1932).

3. *Brumfield* v. *Consolidated Coach Corp.*, 240 Ky. 1, 40 S. W. (2d) 356 (1931) ; *Illinois Central R. R. Co.* v. *Whittemore*, 43 Ill. 420, 92 Am. Dec. 138 (1867) ; *O'Neil* v. *Lynn and Boston R. R. Co.*, 155 Mass. 371, 29 N. E. 630 (1892) ; *Platt* v. *Lecocq*, 158 F. 723, 15 L. R. A. (N. S.) 558 (1907) ; *N. & W. R. R. Co.* v. *Wysor*, 82 Va. 250 (1886). For an exhaustive study of types of persons who may be refused passage because of personal disqualifications, see *Frank E. Quindry*, "Airline Passenger Discrimination," *supra* note 2, p. 490.

4. *Bogard's Adm'r* v. *Ill. Cent. R. R. Co.*, 144 Ky. 649, 139 S. W. 855 (1911) ; *Pullman Co.* v. *Krauss*, 145 Ala. 395, 40 S. 398 (1906) ; *New Orleans, Jackson, and Gt. Northern R. R. Co.* v. *Statham*, 42 Miss. 607, 98 Am. Dec. 478 (1869) ; *Davis* v. *Kirlen*, 253 S. W. 330 (Civ. App. Tex., 1923) ; *Conolly* v. *Crescent City R. R. Co.*, 41 La. Ann. 57, 5 So. 259 (1888). While the court rested its decision in the instant case upon this ground, the facts seem to indicate that the real reason for the ejection was the possibility of grave detriment to the sick passenger, and not the fear of contagion in the other passengers.

insure the comfort, convenience, safety, and health of the passengers. In the light of these objectives, the decision in the instant case appears justified.

Because of the restricted quarters on a plane, the presence of a sick passenger has a strong psychological effect on the comfort of the other passengers; and the close proximity of the passengers to each other enhances the possibility of contagion and a feeling of repulsion in the passengers who had innocently assumed, as was their right, the existence of safe and comfortable flying conditions. Moreover, the necessity for an unscheduled landing which would be necessitated by an adverse change in the condition of the stricken passenger, as in the instant case, might interfere with the duty of the carrier to provide a regular and convenient schedule upon which the public may rely. The safety factor, which is of controlling interest, is manifestly affected by the presence of a sick passenger who might create confusion and panic among the passengers which in turn might affect the pilot's control of the plane.[5]

From the viewpoint of the carrier as a business enterprise, the power of exclusion of diseased passengers is essential in order to prevent liability to passengers contracting disease on the plane.[6] The comfort and enjoyment of the passengers is reflected in their continued patronge which is of increasing importance in view of the competition between the various modes of transportation. In this respect, the ability to maintain a reputation for prompt schedules and safe flying conditions is of signal importance in advertising for public patronage.

Since the layman is not usually aware of the effects of air travel upon a passenger who is not physically fit, it would appear that the carrier is under a duty to make clear to such a passenger the probable effects the trip would have upon him and the conditions which may be met.[7] If the carrier accepts a passenger knowing his condition, every reasonable care should be taken, and this duty, once assumed, should continue coextensively with any obligation it owes to the other passengers. The court in the instant case emphasized the high duty of considerate treatment until actual ejectment of the disabled passenger[8]—a duty which seems to have been well met in the instant situation.[9]

EDWARD M. GLAZIER.[10]

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5. In this respect, it is interesting to note the dependence upon the human element in the control of the airplane. Mr. Quindry (*supra* note 2, p. 489) points out that, under modern conditions, flying depends approximately 90% on the pilot and 10% on the plane.

6. *Bogard's Adm'r* v. *Ill. Cent. R. R. Co.*, *supra* note 4 (passenger sued carrier because of disease contracted from another passenger).

7. But a reasonable rule promulgated by the carrier need not be communicated to each individual if it is of general usage and custom, in which case all persons are presumed to be aware of it. *Brumfield* v. *Consolidated Coach Corp.*, *supra* note 3, p. 364. For a case of historical interest on the subject, see *Pearson* v. *Duane*, 71 U. S. 605, 18 L. Ed. 448 (1866).

8. *Conolly* v. *Crescent City R. R. Co.*, *supra* note 4, discussing the degree of care exacted from the carrier towards the sick passenger. This case, however, is distinguishable from the present case where the carrier had knowledge of the condition of the applicant before acceptance.

9. It is interesting to speculate on the allegation of the plaintiff that the pilot deliberately made the trip as uncomfortable as possible. A pilot, unlike the captain of an ocean liner or the engineer of a train, can very easily frighten an undesirable passenger and in an almost undetectable manner. While this might be a method of *extra-legal* pressure, the presence of the other passengers would prevent such a practice from becoming a usual one.

10. Member of the Legal Publications Board, Northwestern University School of Law.

DIGESTS

Administrative Law—Customs Duties—Jurisdiction of District Court Over Plane Flying Above District.—[Federal] Loaded with smuggled liquor, respondent plane left the airport at St. Catherines, Canada, crossed the international boundary, proceeded over a portion of the Western District of New York and a portion of the State of Pennsylvania, entered Ohio and landed at Youngstown. In violation of the Tariff Act no report was made to the customs officials and the goods were disposed of. The owner then ordered the pilot to make another trip but the Canadian police seized the plane in St. Catherines as it was being loaded and arrested the pilot. The plane was then sent back to the United States by wagon and was seized at the boundary by customs officials operating from the Western District of New York and an action for forfeiture was brought in the United States District Court for the same district. Defendant's counsel contended that this court had no jurisdiction as the plane did not land in its district but merely flew over it, and that the libel action should have been brought, if at all, in the district where the plane landed. *Held:* the court had jurisdiction over the airspace above the territorial boundaries of the district, and a plane transporting goods in violation of the Tariff Act is subject to the jurisdiction of the court of any district over which it passes. *United States* v. *One Pitcairn Bi-Plane, Registration No. NC-5062, Engine No. AD-8285,* 11 F. Supp. 24 (D. C. N. Y., April 22, 1935).

Administrative Law—Statute—Aircraft Not "Vessel" or "Vehicle" Within Meaning of Tariff Act.—[Federal] A Fokker monoplane coming from the British West Indies landed in Florida in violation of Sections 459 and 460 of the Tariff Act of 1930 which requires notification to the nearest customs officials. Upon seizure of the plane, a libel for forfeiture was filed by the government in accordance with the act, and Hunter, who held a $400 purchase money mortgage on the plane was allowed to intervene. The trial court held that the Tariff Act was not applicable to aircraft and awarded the proceeds of the sale of the plane to Hunter. *Held:* judgment affirmed. Sections 459 and 460 requiring notification to the customs officials by the person in charge of "vessels" or "vehicles" arriving from "contiguous countries" with merchandise does not include aircraft by the express terms of Section 401 (a) (b). However, the Secretary of the Treasury under Section 644 of the Tariff Act, and the Secretary of Commerce, under Section 7 of the Air Commerce Act, are given the power to apply any provision of the Tariff Act to aircraft. This has been done by the Secretary of the Treasury in *Regulations,* Article 253 and Article 254. Forfeiture of the craft must still be based on the provisions of the Tariff Act which refers to "contiguous" countries. The British West Indies, being separated from the United States by the high seas, is not such a "contiguous" country within the meaning of the act and forfeiture should not be adjudged. *United States* v. *L. M. Hunter,* 235 C. C. H. 2802 (U. S. C. A., Fifth Circuit, decided January 3, 1936).

Airports—Municipal Corporations—Leases.—[California] Plaintiff, a taxpayer, brought action against the City of Los Angeles to compel cancellation of two lease agreements pertaining to land used as a municipal airport and to compel the City of Los Angeles to discontinue and abandon the operation of the airport on the grounds that: (1) the leases were void because the aggregate of the total amount of rental installments to be paid by the city exceeded the income and revenue provided for the necessary and requisite expenditures of the city for the year, in violation of a state constitutional provision that a municipal debt incurred in any year shall not exceed the income and revenue provided for such year without the assent of the voters of the city; (2) the charter of the City of Los Angeles prohibits the city from engaging in any "purely commercial or industrial enterprise" without the approval of the voters of the city manifested at an election, the conduct of the municipal airport falling within that prohibition, and no phase of the lease or maintenance of the airport having been sub-

mitted to the voters of Los Angeles. Demurrers to the complaint were sustained and judgment of dismissal entered, from which plaintiff appealed. *Held:* judgment affirmed. The lease of land to the City of Los Angeles at an annual rental payable in equal monthly installments for a term of years for a municipal airport, with option to purchase, is valid and does not create an indebtedness for future rentals, in excess of the installment of rent presently due, within the meaning of the constitutional limitation. The conduct and maintenance of an airport by a municipality is a public enterprise, not a "purely commercial or industrial enterprise" prohibited by the charter of the City unless approved by the voters of the City. *Krenwinkle* v. *City of Los Angeles et al*, 51 P. (2d) 1098 (Supreme Court of California, decided November 20, 1935).

Contracts—Infants—Flying School Course as a Necessary.—[Massachusetts] This is an action of contract to recover the sum of sixteen hundred (1600) dollars and interest paid to the defendant under contracts made during the infancy of the plaintiff. The writ is dated July 11, 1931, returnable the second Saturday in August, 1931, with an *ad damnum* of three thousand (3000) dollars.

I find the facts to be substantially as follows: The plaintiff, a minor, entered into a contract with the defendant, the Curtiss-Wright Flying Service, Inc., for instruction as a private pilot, on September 25, 1929. The cost of the course was three hundred (300) dollars, and the same was completed and paid for. On February 27, 1930, the plaintiff entered into a contract with the defendant for a course of instruction as a limited commercial pilot, the cost of the course being thirteen hundred (1300) dollars. The course was completed and paid for. On May 6, 1930, the plaintiff entered into a contract with the defendant for a course of instruction as a transport pilot, the cost of the course being thirty-two hundred (3200) dollars. This course was not completed, and no amount was paid on account of cost of same. At the time these contracts were signed, the plaintiff was a minor. The plaintiff voluntarily withdrew from the transport pilot's course in May, 1930, and attained his majority on July 20, 1930. On February 28, 1931, after receiving notice that he owed a balance of forty-eight dollars and fifty-five cents ($48.55)[1] on account of the instruction received under the third contract, he visited the office of the attorney for the defendant at New Bedford, Mass., and stated that he did not owe any money to the defendant. He did not disaffirm his contracts until July 11, 1931, when he brought the present action. The plaintiff is the son of a textile weaver employed at New Bedford, Mass. He went to work at the age of sixteen, as a plumber's helper. Later, he worked in an auto garage, earning on an average of twenty (20) dollars per week, and later did some laboring work at twenty-two (22) dollars per week. He left for New York in the early part of 1929, and went to work for Carpen Brothers as an upholsterer, earning on an average of twenty-four (24) dollars per week. He left this job to take the course of flying instruction from the defendant. At this time his folks had accumulated two thousand (2000) dollars, and he, himself, had accumulated four hundred (400) dollars. He took the course "because he wanted to learn a new trade and earn a good living." The plaintiff failed to qualify as a private pilot, or as a limited commercial pilot, although he had taken examinations for same. He has been unable to obtain work in any commercial flying service as a result of having taken this course.

It is agreed by counsel for the parties hereto that the law of the State of New York is applicable to this case.

I find that the plaintiff was a minor at the time the contracts were made; that he was a minor at the time of the execution of the first and second contracts and at the time that he left the school in May, 1930, during his instruction under the third contract. I find that he disaffirmed his contracts

1. It has been explained that the opinion of the court does not cover the entire situation, since Adamowski's suit for a refund of tuition actually was a cross-action to the suit instituted by Curtiss-Wright Flying Service against him for $48.55, balance due.

and that the disaffirmance was within a reasonable time after attaining his majority. I further find that the courses of instruction were not necessaries for the plaintiff.

I rule that under the law of the State of New York, the plaintiff, having received from the defendant only an intangible right, in the nature of flying school instruction, is not chargeable for the benefit, if any, received from such instruction. *International Text Book Co.* v. *Connolly*, 286 N. Y. 188; *Green* v. *Green*, 69 N. Y. 553; *Rice* v. *Butler*, 160 N. Y. 578; *Wyatt* v. *Lortscher*, 216 N. Y. Supp. 571; *McCarthy* v. *Bowling Green Storage Co.*, 169 N. Y. Supp. 463.

The plaintiff seasonably filed ten requests for rulings, all of which I allow.

The defendant seasonably filed five requests for rulings, all of which are denied.

Judgment for the plaintiff in the sum of twenty-one hundred sixty-three ($2163) dollars.[2]

Contracts — Bailment — Disregard of Bailor's Instructions. — [New York] Defendant, a licensed pilot, hired a plane from the plaintiff for a short flight at a rental which the court found as seven dollars a day. Evidence showed that the plane, a two seater, had a tendency toward nose-heaviness when operated from the front cockpit without a rear passenger. Defendant contended that the "stick" in the front cockpit was not fastened with a bolt, but that the plaintiff had told him a bolt was unnecessary. Plaintiff denied this and claimed he definitely admonished the defendant not to operate the plane without a passenger in the rear. The defendant had takn his passenger to Newark and, after depositing him there, returned to Floyd Bennett field in New York, with the rear cockpit empty. Upon trying to land, the plane went into a nose dive about thirty-five feet above the ground and was damaged. Conflicting testimony was presented as to whether the damage was due to the "pulling out" of the "stick" or by the nose-heaviness of the craft. *Held:* judgment for the plaintiff. The court found that the defendant knew of the nose-heaviness of the plane, that the plaintiff had admonished the defendant as alleged, and that the damage had not resulted from the "pulling out" of the "stick" as the pilot in such a situation could impart an upward thrust to the plane by giving it full throttle and thus afford himself an opportunity to reattach the "stick" and regain control. The defendant, as bailee, was bound to heed the bailor's instructions and was liable for damages upon failure to do so. *Whitehead* v. *Johnson*, 235 C. C. H. 4011 (Mun Ct., N. Y. City, Jan. 12, 1934).

Contracts—Seaplane—Liens—Customs Duties.—[Federal] The United States filed its libel in rem against one Fairchild Seaplane, No. NC 142 H, to recover penalties aggregating $2,100 assessed by the Secretary of the Treasury for violations of certain sections of the Air Commerce Act of 1926, the Tariff Act of 1930, and the Customs Regulations of 1931, and to enforce its lien for said penalties. Appellee filed an intervening libel, claiming a lien in the sum of $1,268.72 for making repairs to said seaplane, and prayed that its lien be declared prior and superior to that of the United States. The facts were not disputed and showed that the violations for which the penalties were awarded occurred on July 26, 1932, after which the plane alighted on a part of the navigable waters of Puget Sound and was subsequently removed to a hangar and its motor and pontoons sent to appellee's shop in Seattle for repairs. Before the repairs were completed, the seaplane was seized by customs officers of the United States for the

2. The opinion of PATRICK M. DOYLE, Special Justice, is set out in full. The decision of the Third District Court (No. 2766) of the Commonwealth of Massachusetts was handed down during the last of February, 1936, in the case of *John P. Adamowski* v. *Curtiss-Wright Flying Service, Inc.* No date, however, appears on the decision, copy of which has been furnished through the courtesy of Mr. Cyril Hyde Condon of Wherry, Condon & Forsyth of New York City, New York. It is understood that an appeal has been taken.

violations. Neither the lien of the United States for the penalties awarded, nor that of appellee for the repairs made, was disputed; the question was one of priority, appellee contending that the seaplane was a vessel within the maritime jurisdiction of the United States and that it therefore held a maritime lien which was superior to the penalty of the United States. The District Court awarded the penalties prayed for by the United States, but held its lien to be inferior to that of appellee. *Held:* on appeal, reversed and remanded, with directions. Although a seaplane, while afloat on navigable waters of the United States, may be a vessel within the admiralty jurisdiction, it is not such a vessel while stored in a hangar, on dry land, with its engine in a shop, also on dry land, undergoing repairs, nor does the making of such repairs create a maritime lien. Appellee's lien was no better than a lien against an ordinary airplane and therefore inferior to the penalty lien of the United States. *United States* v. *Northwest Air Service, Inc.*, 80 F. (2d) 804 (Circuit Court of Appeals, Ninth Circuit, decided December 20, 1935).

Negligence—Injuries Sustained in Parachute Jump—Evidence.—[Illinois] The plaintiff, an experienced parachute jumper, made a jump from an airplane on July 25, 1931, from a height of 2,500 feet. He was equipped with two parachutes, a primary and emergency parachute which had been packed by defendant's agent, a licensed "rigger," but which failed to open, thereby allowing him to fall to the earth and sustain severe injuries. The evidence disclosed that when the plaintiff jumped from the plane the primary parachute opened only partially and failed to retard his fall sufficiently, whereupon he pulled the cord of the emergency 'chute, which failed entirely to open. He sued to recover damages for the injuries sustained, charging negligent and improper preparing and folding of the parachute by the defendant. Defendant filed a plea of not guilty, contending that plaintiff failed to prove any negligence on the part of it or its agents or servants in preparing, packing, arranging and folding said parachute. Upon a trial of the cause before the lower court and a jury, judgment was entered against the defendant for $5,000 and costs. *Held:* on appeal, affirmed. The doctrine of *res ipsa loquitur* does not apply where there is evidence of specific negligence. It was properly a question for the jury to determine from all of the evidence and circumstances in the case whether the defendant was guilty as charged, and whether or not the parachutes failed to open when operated, and there was sufficient evidence to sustain the jury's findings. The admission of evidence of possession of an emergency parachute by the plaintiff was not error to justify a reversal, even though plaintiff's declaration made no mention of the emergency parachute, inasmuch as such evidence refuted any charge of contributory negligence on the part of the plaintiff. *Jack Cope, Appellee* v. *Air Associates, Inc., Appellant*, 283 Ill. App. 40 (Appellate Court of Illinois, opinion filed Dec. 27, 1935). An appeal has been taken to the Illinois Supreme Court.

Trespass—Nuisance—Low Flying Near Municipal Airport.—[Iowa] A correction should be made in the statement of facts involved in *Tucker* v. *United Air Lines, Inc.*, as published in 6 JOURNAL OF AIR LAW 622 (1935). The correction relates to the order in which the two petitions were filed. The attorney who handled the case for the air line has written the following explanatory statement: "Both were filed the same day. Our petition had been prepared for some time but action in court was delayed with the understanding that Mr. Tucker would not proceed with the erection of obstructions. When we learned he was planting trees near the boundary fence we immediately proceeded to the court house and filed our petition and applied to the court for an injunction. On arriving at the court house we found that Mr. Tucker had filed a petition on the same day."

After the planting of the trees, referred to, the prayer of the petitioning air line was changed to read, "that the defendant be restrained from erecting *trees,* poles or other obstructions . . . ." (Italics ours.)

A United Press dispatch from Iowa City, Iowa, March 24, 1936, states that: "Trancontinental airmail and passenger service into Iowa City was disrupted today by erection of a pole, twenty-four feet and eight inches high, on the Frew Tucker farm opposite the landing runway at the Iowa City airport.

"The pole, topped by a fluttering red flag, was erected by Tucker yesterday following a protracted District court fight last spring during which Tucker protested that United Airlines' planes, in setting down on the Iowa City field, clipped branches off his trees and frightened his mules into running away.

"When the pole went up, United Airlines at Chicago immediately cancelled all plane stops here and ordered airmail carried into and out of Iowa City by train.

"Today the Chamber of Commerce here pondered a means of settling the dispute between Tucker and the Airlines officials.

"Tucker, during his District court fight, had been restrained from erecting obstructions higher than twenty-five feet along the boundary of his farm and the airport. The airline was enjoined from flying its planes lower than thirty feet over Tucker's farm.

"Tucker listened to the complaints of Chamber of Commerce officials and informed them the troublesome flag pole was erected, 'as a sort of measuring device to see to it that Airlines fellows keep their part of the court order.' "

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1. From The Chicago Daily News, March 24, 1936.

BOOK REVIEWS

LIABILITY IN THE LAW OF AVIATION. By Lincoln H. Cha. Shanghai: The Commercial Press, Ltd., 1935. Pp. viii, 172.

This monograph offers an instructive comparative study of German, French, Italian, Anglo-American, and International law relating to air carrier passenger liability. The title is considerably broader than the actual text material.

Except for the Italian law (which covers only seven pages) the subject matter is quite equally divided—with some forty pages devoted to each country or jurisdiction.

The American reader, who has many times wondered as to the proper interpretation of foreign terms such as "Betrieb," "Halter," "Responsabilité légale," "Responsabilité conventionelle," etc., will welcome the author's attempt to explain them as related to German and French jurisprudence.

The object of the author apparently has been to make broad comparisons between the various laws; but, while he discusses legal principles rather thoroughly, there is no attempt to develop the details of their application to specific facts. He does, however, make one assumption of fact when considering "unavoidable accidents" which this reviewer believes to be erroneous; and that is that weather conditions can be foreseen in countries where the science of weather forecasting has been well developed. There have been some instances in this country to illustrate that weather conditions cannot always be foreseen even under the best circumstances. Advances in the science of weather forecasting will, of course, tend to obviate this difficulty as time goes on.

The cases cited in the Anglo-American section do not include decisions of the past three years. However, the general principles as explained by the author are sufficiently illustrated.

This work is unusual in its scope and the author deserves a great deal of credit for presenting such a well coordinated study.

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